10¢ A COPY

The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

September 21, 1928 **Volume 51. No. 1**

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

The International Derrick & Equipment Co.

Detroit, Charleston, Dallas, Houston, Mexia, Wichita Falls, Odessa, Pyote, Amarillo, Borger, Corsicana, Pampa, Panhandle, Shreveport, Oil City, Smackover, Allen, Sasakwa

The largest company devoted to the manufacture of steel (galvanized) equipment for the oil, gas and artesian industries

COLUMBUS, OHIO TORRANCE, CAL.

California Representative

National Supply Co. *of* California

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Export Representation: 74 Trinity Place, New York City, Columbus, Ohio Houston, Texas Los Angeles, Cal.

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SPANG WEDLESS JARS
Patented Oct. 6, 1925—Other Patents Pending
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Patented Oct. 6, 1925—Other Patents Pending

Now We Ask You

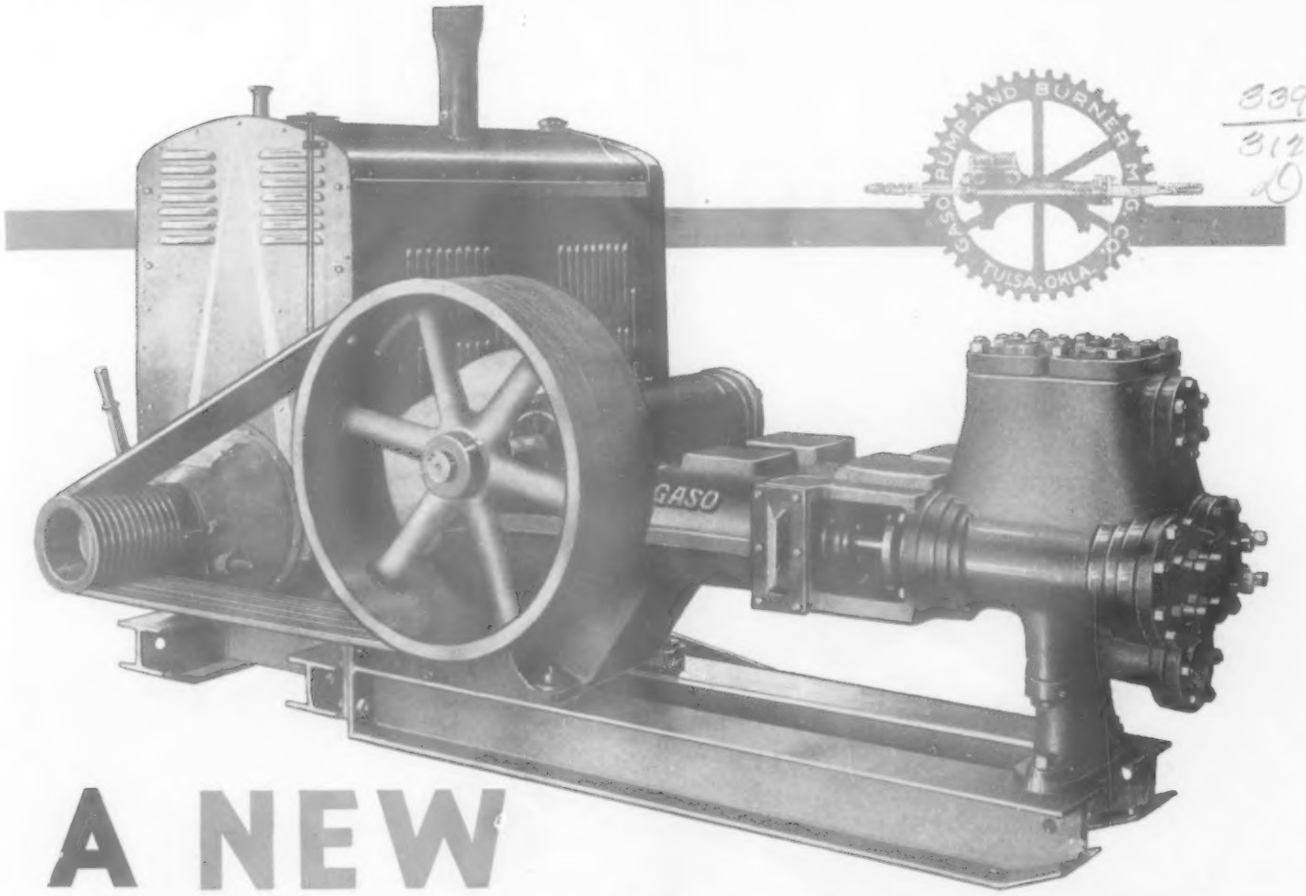
Why risk the Hazard of an ordinary welded jar when you can obtain a Spang Drilling Jar that's forged from a single billet of alloy steel—a jar that has proved its real worth and safety in all fields.

SPANG AND COMPANY

BUTLER, PENNSYLVANIA

Sold by all leading Supply Houses

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.



A NEW GASO PUMPING UNIT

for Semi-Permanent and Permanent Pipe Line Stations

The need of a portable pumping unit especially adapted for small semi-permanent and permanent pipe line stations—led us to design this new GASO unit.

The pump is especially rugged, efficient and durable. It is our GASO No. 710 Enclosed Type, Self-Lubricating Power Pump, for working pressures up to 1400 lbs., with interchangeable liner fluid end taking liners from 2½" to 7" diameter and giving capacities from 38 gallons per minute at 1400 pounds pressure up to 351 gallons at 300 pounds pressure.

Every working part of this pump is protected from dust by the oil-tight case, and runs in an oil bath. Pinion shaft bearings are TIMKEN TAPER ROLLER BEARINGS, and main bearings are lined with genuine babbitt, both being easily adjustable to wear. Open hearth steel continuous tooth herringbone gears, center driven, running in oil, insure highest efficiency and quietness.

The power plant is a BUDA 85 H.P. 4-cylinder engine, and drive is the highly efficient and durable Tex-Rope drive.

The unit is mounted on sturdy steel H-Beam skids.

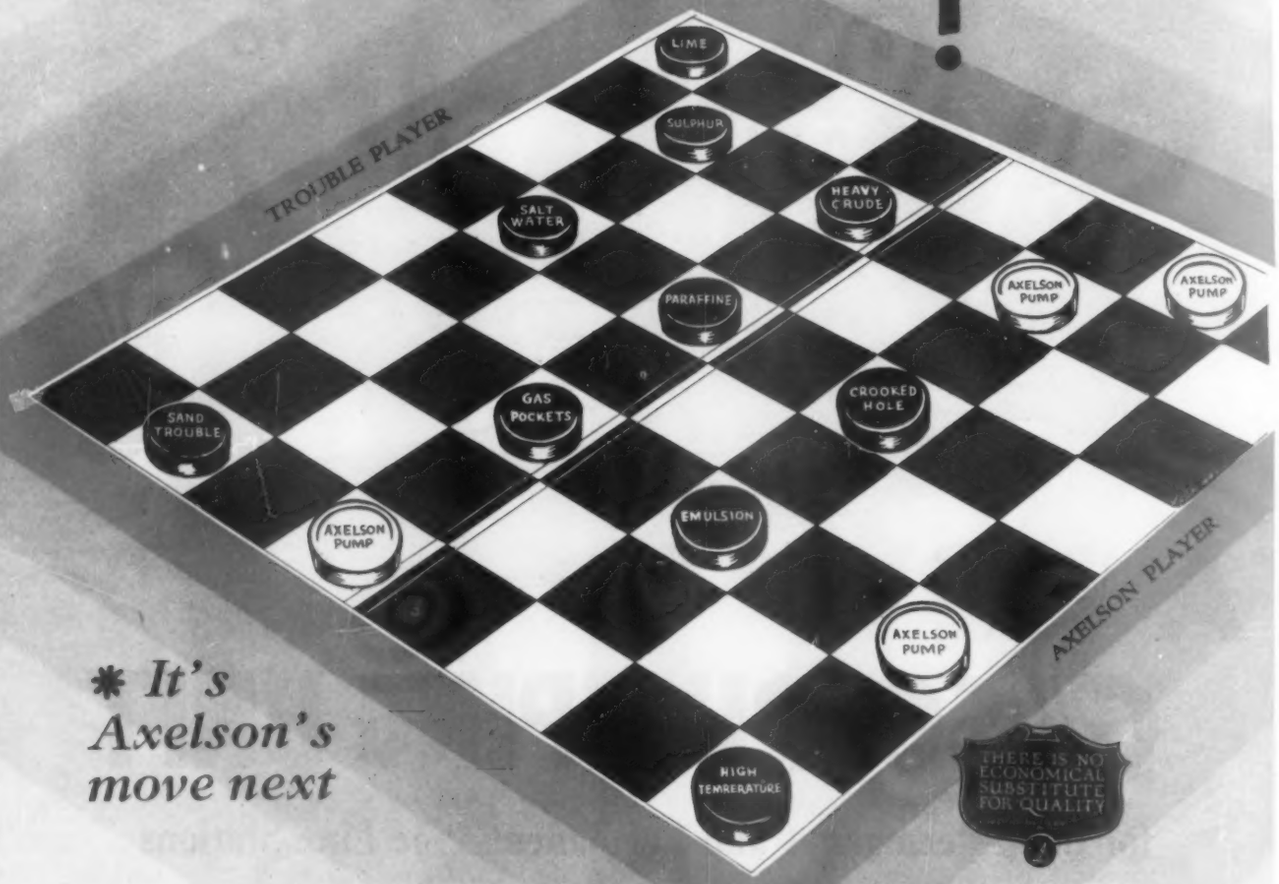
This unit is also ideal for any other oil field service requiring the above capacities and working pressures. Write, wire, or phone for further information.

GASO PUMP & BURNER MFG. CO.
TULSA, OKLA.

GASO PUMPS
for every oil industry need

Say you saw it in The OIL WEEKLY

What is the right move to make?*



** It's Axelson's move next*

In the face of odds, fighting the troubles encountered in deep oil well pumping, there's a way to "win the game" with Axelson Pumps playing a part. One move of an Axelson on the above board will win the game—for Axelson. What move is it?

The answer will be published in this publication in next week's issue.

AXELSON MACHINE CO.
Los Angeles, Tulsa, St. Louis, New York City
Mid-Continent and Eastern Distributors:
Frick-Reid Supply Corporation

AXELSON PUMPS

INTERCHANGEABLE PUMPS for INTERNATIONAL SERVICE

Say you saw it in The OIL WEEKLY

For the protection of operators interested in sand-testing apparatus, we again quote from a patent application owned by Halliburton and now under consideration by the United States Patent Office:

> "Apparatus for testing a well comprising a string of pipe to be lowered into the well, a packer carried by the pipe and means at the lower end of the pipe to receive a sample from the well including an inlet, the valve being positively controlled by movement of the pipe to open and close the inlet while the packer is seated."

It seems reasonably sure that this and several similar claims will be allowed.

ERLE P. HALLIBURTON COMPANY
DUNCAN, OKLAHOMA

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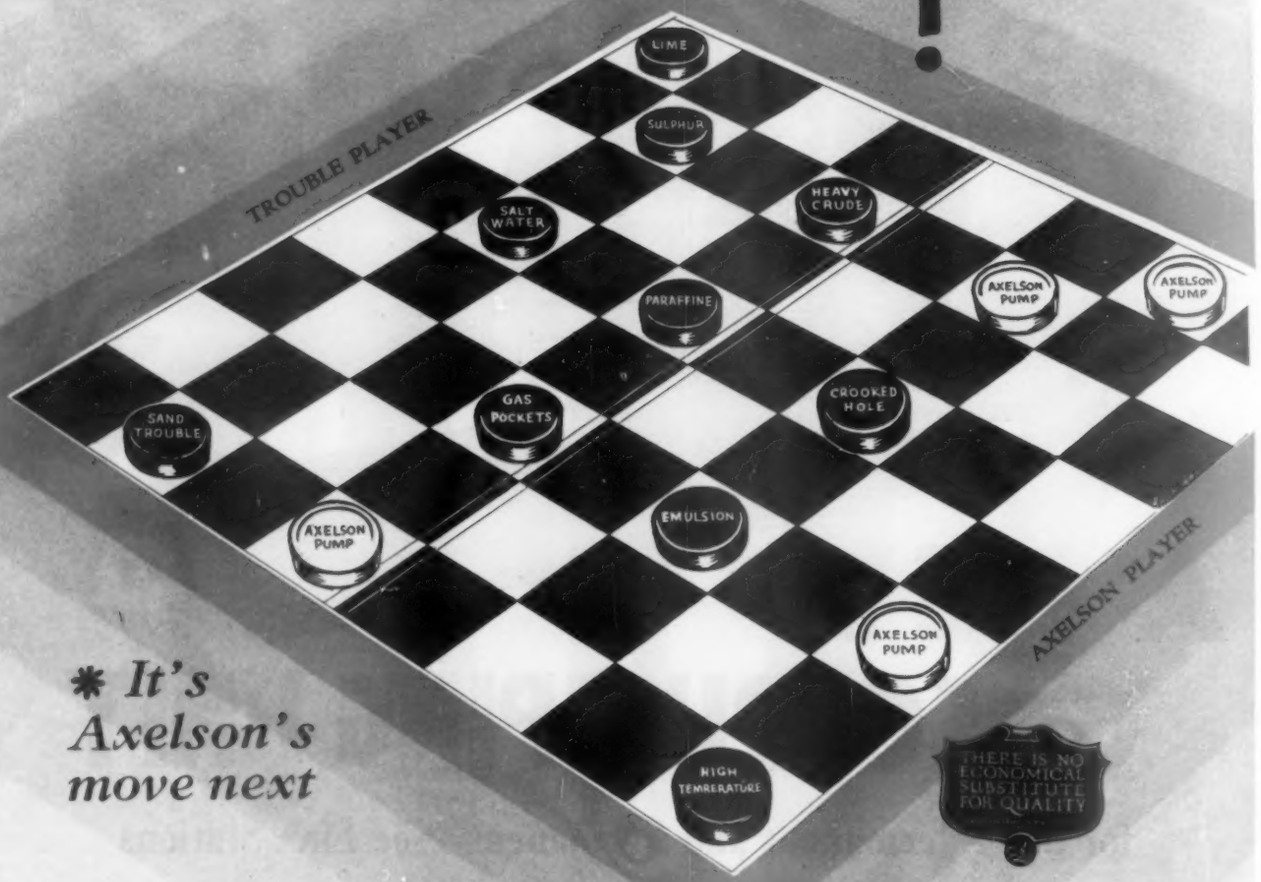

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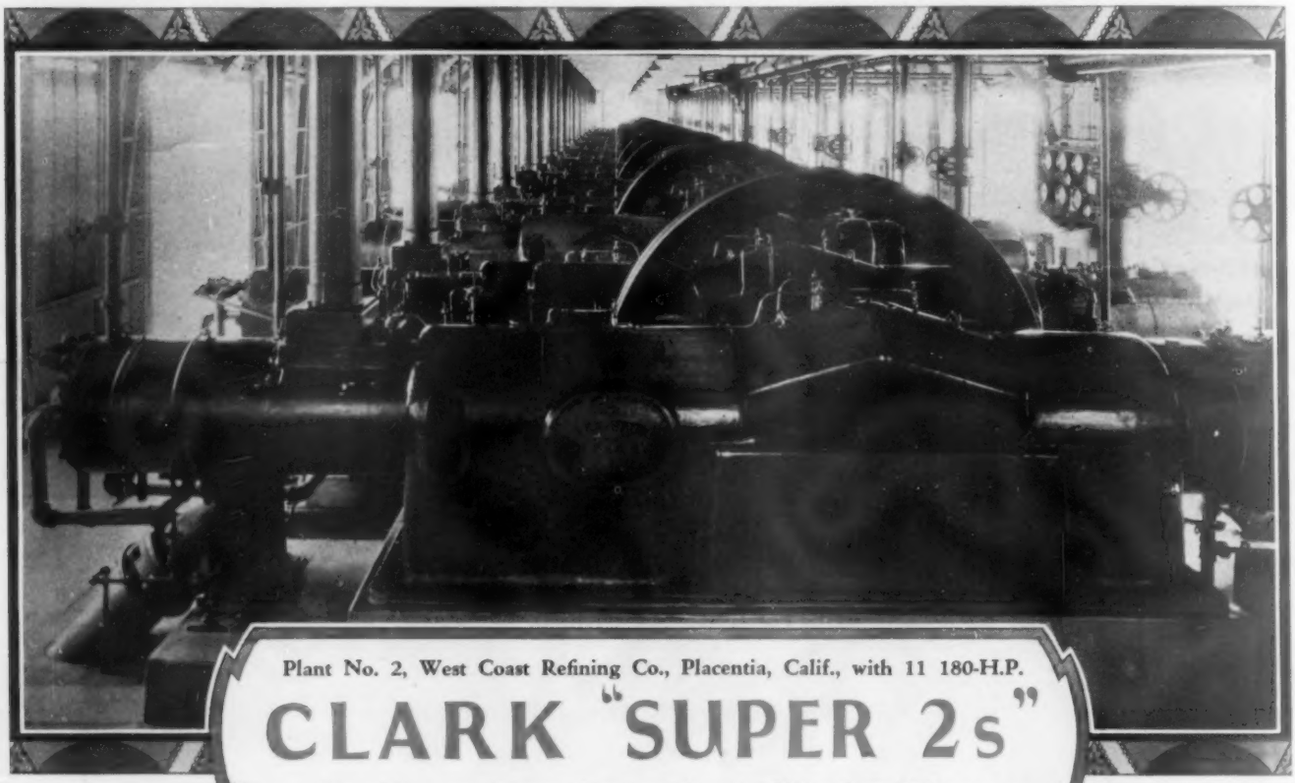
DUNCAN, OKLAHOMA

Use 1/3 Less Fuel

Than Ordinary 2 Cycle Engines



Plant No. 2, West Coast Refining Co., Placentia, Calif., with 11 180-H.P.

CLARK "SUPER 2s"

Plant No. 1 on the same lease contains 14 additional CLARK units

The CLARK Super 2-Cycle Compressor uses 1/3 less fuel than an ordinary 2-cycle engine because of better mixing, higher turbulence, and no loss of gas into the exhaust during scavenging. The "Super 2" is equal in efficiency to the best 4-cycle engine—when the 4-cycle machine is at its best, in test condition—because there are no fuel losses through leaky exhaust valves, and smaller heat losses due to smaller combustion chamber. More power for equal size cylinder is developed because the super-charging effect of the CLARK Fuel Injector increases the effective volume of the cylinder by 10% to 15%.

Investigate the engine which combines 2-*cycle simplicity* with 4-*cycle efficiency*. Address, Clark Bros. Company, Olean, N. Y. Branches and Warehouses: 125 W. First St., Tulsa; McCamey and Sweetwater, Texas; and Artesia, N. M. California Branch: Smith Booth, Usher Company, 228 S. Central Ave., Los Angeles, and 50 Fremont St., San Francisco.

Clark Bros. Co. OLEAN N.Y.

CLARK

Say you saw it in The OIL WEEKLY

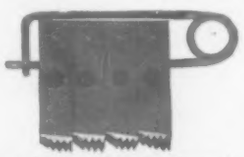
A Letter from Harry G. Nye

Nye Drop Forged Pipe Cutter

No. 1-A ⅛ to 1¼" .....$2.25 net
No. 2-A ¼ to 2" ..... 3.00 net
No. 3-A 1 to 3" ..... 5.00 net

Nye Saunders Pipe Cutter

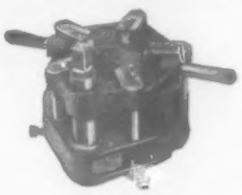
No. 1 .....$1.80 net
No. 2 ..... 2.70 net
No. 3 ..... 6.60 net
No. 4 ..... 10.80 net
No. 5 ..... 16.80 net



NYE (Toledo Type) Chasers Fit Nos. 1, 1A and 2 NYE (Toledo Type) Stocks

Each set is guaranteed in every particular. Will cut much easier than other similar dies.

No. 1, 1" to 1¼" ..$ .75 per-set net
No. 1, 2" .....$1.25 per set net
No. 2, 2½" to 4" ..$3.60 per set net



NYE NO. 2
(Toledo Type)
Geared Threading Device Improved

Capacity 2½ in. to 4 in. inclusive. This tool has the same rugged construction as the No. 1 and No. 1A Nye Receding stocks. A ratchet handle and a spider hub threaded for 1-inch pipe is furnished as standard equipment.

Net price complete $50.00
West of Rocky Mountains .. 55.00

FREE TRIAL—ABSOLUTELY GUARANTEED

To the Oil Men of the U. S. A.—

Friends:

My wife went to spend a couple of weeks and a couple of hundred dollars in the country. Meanwhile I have been running the house. Or rather the house has been running me; ragged. Of course my wife generally runs the house. I don't need to tell any married man that. But she said I would have to run things while she was gone, so I saw at once that it was going to be a vacation for both of us. A woman certainly has a snap. All she has to do—but I am coming to that.

Well, I have run a pipetool factory for twenty odd, very odd, years. I have had to meet a payroll every Saturday night, and notes and salesmen the rest of the week. Whenever anything went broke they came to me, whether it was a belt or a bookkeeper. So I looked forward to this two weeks with all the happy confidence of a cornbelt farmer reading a campaign platform. After running a factory, running a house looked as easy as carrying Alabama for Underwood.

When I got back from the train I fried myself some bacon and eggs (women talk about cooking, but it is a comparatively simple matter), and, as I was kind of tired, decided to let the dishes go until morning. Fellows, don't do it. Did you ever try to wash a skillet twelve hours after? I wish grease would stick on a shaft like that. Anyway, after twelve hours there is nothing to do but blast, or go out and buy a new skillet, which I did.

Then the guests began to arrive. I hadn't expected any, but they didn't stay away on that account. The milkman came to collect, and the paper man wanted his money, and neither of them had any change. Someone started to pound in the back door, and I got a gun and went out there. There was a heavyweight prizefighter out there with a week's beard on, and just when I was going to shoot him in the foot and yell for the police he asked me if I didn't want any ice, there wasn't any card up? I soon solved that. I found if you didn't want to be bothered by the iceman, to put up a card.

After that the agents began to arrive to sell me everything from chain store stock to a mousetrap that could also be used for boiling eggs. Every time I went to the door the telephone rang, and every time I went to the telephone someone knocked on the door. Then the coffee boiled over and put out the gas, and I had to rush the family cat to the pulmotor. When I got back the woman next door came over and wanted to know if I was through with the egg-beater and I told her yes, and the holedam business.

She went away plainly showing that she always thought I was that kind of a man. And then, oh boy, my wife walked in! She was afraid she had left the laundry window open. I had given her two hundred dollars to go away, but I offered her three hundred to stay home. My business is not running a house, I can see that. My business is making pipetools, and I might add, by the way, I make the best in the world.

Faithfully yours,

HARRY G. NYE.

Otherwise Known As

The Nye Tool & Machine Works

4120-30 Fullerton Avenue

Chicago, Ill.

(Copyright, 1928, by Harry G. Nye. All rights reserved)

Nye Self-Locking Vise

No.	Pipe	Vise, Complete Net
00	⅛ to 2 "	$2.82
10	⅛ to 2½"	3.34
20	⅛ to 3½"	5.00
30	⅛ to 4½"	7.33

Nye thin blade cutter wheel, made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.

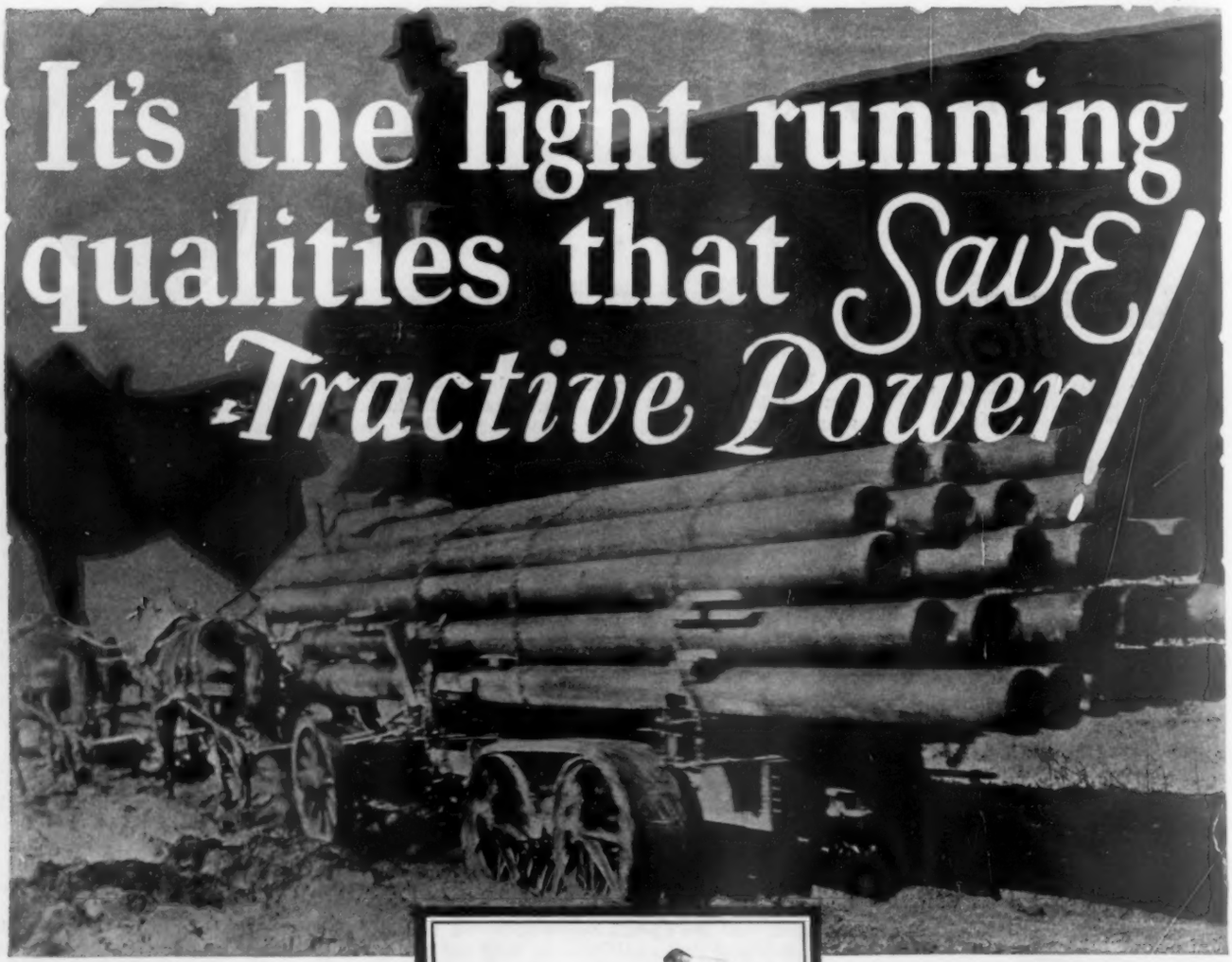
The No. 1A is the same as the No. 1, except that it is equipped with a ratchet for work where space is restricted.

No. 1A Nye Receding Pipe Threader, complete ...$12.00 net
West of Rocky Mountains $13.50

The rugged construction and few working parts account for the simplicity and durability of these Nye Receding models. They do the work easily and efficiently.

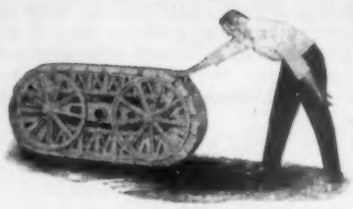
No. 1 Nye Receding Pipe Threader, complete ....$9.60 net
West of Rocky Mountains $10.80

It's the light running qualities that Save Tractive Power!



Measure the tractive power required to pull a 10-ton load on round wheel equipment over roads that are filled with mud or deeply covered with rotten vegetation. Then compare it with the power required to pull the same load on Athey Truss Wheel Wagons over the same road.

You'll find that ATHEY Wagons require less than half as much power. Or, put it another way, with ATHEY Equipment THE SAME POWER WILL PULL MORE THAN DOUBLE THE LOAD.



This actual photograph shows an Athey Truss Wheel weighing approximately 1600 pounds, being propelled by a light push of the hand. It is ATHEY'S construction that gives such phenomenal light running qualities—and saves you more than half of your tractive power.

It's the light running qualities of ATHEY Truss Wheel Wagons that save tractive power and reduce tractor maintenance costs. In addition, Athey's carry their maximum loads, rain or shine, over operating conditions where ordinary equipment cannot work.

ATHEY Truss Wheel Wagons are the modern, economical means for hauling heavy loads. See your nearest Caterpillar Tractor Company Dealer or write us direct for complete information.

ATHEY TRUSS WHEEL CO.
130 N. Wells St., Chicago, U. S. A.
Cable Address: "Trusswheel," Chicago

The Baldwin Locomotive Works, Foreign Representatives, Philadelphia, Pa.

ATHEY TRUSS WHEEL WAGON
IT BRIDGES THE SOFT SPOTS

Say you saw it in The OIL WEEKLY

Chisholm-Moore manufactures a complete line of overhead material-handling equipment. Below are a few C-M Products. The catalog describes them all. Write for it.

Model K Cyclone

Matchless Trolley

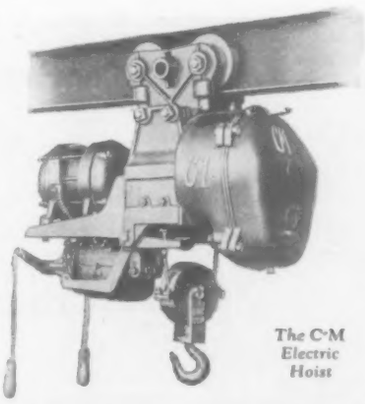
Double I-Beam Crane

Low Head-room Hoist

Cupola Charging Machine

Six Husky, Tireless Laborers for 2c an Hour Apiece!

MATERIAL handling costs certainly would drop in a hurry if you could hire dependable labor at a figure like that. And the best part of it is you can!



The C-M Electric Hoist

A C-M ELECTRIC HOIST will easily do the work of six men — in many cases as many as ten men have been released for more productive labor—at a fraction of the cost of one man.

Their extreme simplicity of construction and operation make it possible for any workman with only a slight mechanical knowledge to operate and care for them. And because of the special alloy steels and metals and the many anti-friction bearings which go into this simple construction, maintenance costs and the necessity for repairs are practically eliminated.

Write for Bulletin No. 31 which gives many suggestions for the use of these hoists.

CHISHOLM-MOORE HOIST CORPORATION
(Division of Columbus McKinnon Chain Co.)
5058 Lakeside Ave., Cleveland, Ohio

Branches: New York Philadelphia Chicago Pittsburgh
Representatives in all principal Cities for Quick service

CHISHOLM-MOORE

CHAIN HOISTS — CRANES TROLLEYS CUPOLA CHARGERS — ELECTRIC HOISTS

Start Now to Hoist Your Profits

CHISHOLM-MOORE HOIST CORP.
(Division of Columbus McKinnon Chain Co.)
5058 Lakeside Ave.
Cleveland, Ohio

Will you please send us

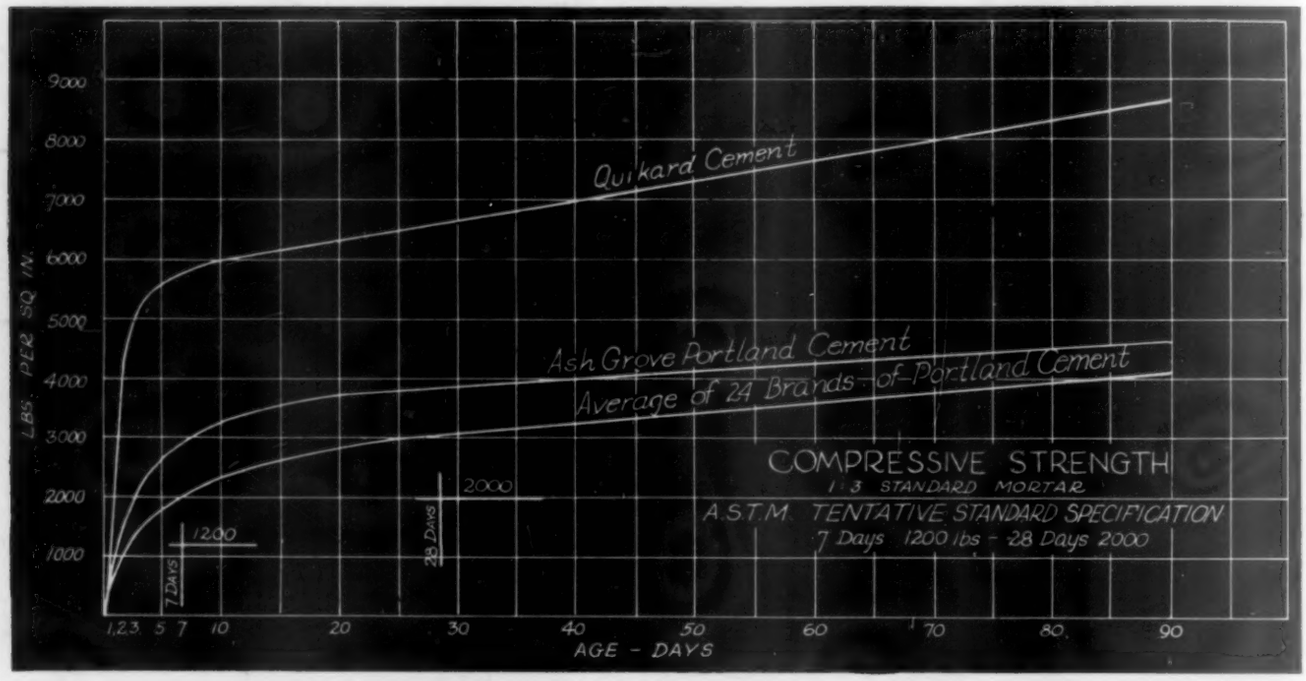
☐ The new Electric Hoist Bulletin, No. 31.

☐ Information on your New Model K Cyclone Hoist.

☐ Information on your complete line of overhead Material Handling Equipment.

Name .....
Company .....
Address .....
City ..... State .....

Meets *Every* Requirement for *Rapid* Concrete Construction



Standard Mixes . . . No Admixtures and 28-Day Strength in 24 Hours!

No other cement possesses *all* the practical advantages combined in Quikard—a *true* Portland Cement that produces 28-day standard strength in 24 hours!

It sets normally, works easily, finishes quickly. It requires *less* and holds *more* water than ordinary cement—eliminating expansion and contraction cracks, shrinkage and drying checks. It makes a light gray, watertight concrete that requires curing *only* 24 hours!

Do away with watchmen, lights, barricades, detours, etc., over an extended time. Busy streets, intersections, pavement patches, railway crossings and replacements or repairs are ready for use in 24 hours when laid with Quikard concrete.

Made only by the Ash Grove Company, Quikard Cement is backed by this manufacturer's reputation for highest quality and unquestionable dependability, extending over nearly half a century!

Produced Only by
ASH GROVE LIME & PORTLAND CEMENT CO.
Founded in 1882
Grand Avenue Temple, KANSAS CITY, MO.

QUIKARD CEMENT

Get in touch with us—

We'll be glad to forward any additional data you require. Packed in 5-ply paper bags, Quikard may be safely stocked for emergencies.

Shipped in mixed cars with Ash Grove Portland Cement. Whether you are in the market now or not, write, wire or phone us *today,* so you will have Quikard when you *need* it!

A *TRUE* PORTLAND CEMENT

Say you saw it in The OIL WEEKLY

THE eyes of the entire petroleum industry are focused on the new H. C. Smith Type C Coring Outfit. And not without good reason: it is setting new high standards of coring superiority in every corner of the oil world.

Constructed of *drop-forged* (not cast) high-carbon steel throughout; cutterheads specially designed to accommodate hard sets and hard facing alloys. Circulation is unusually close to the cutting teeth, assuring a clean core in practically any formation. And the cutterheads, when finally dulled, are economically discarded and replaced by new ones—at a nominal cost. All four blades cut to same gauge.

The Type "C" has been adopted as standard by many of the largest operators in fields where the going is tough. We'll be glad to send you details of some of the records it has made, as well as mechanical details and specifications.

Write for Catalog No. 20

H. C. SMITH MANUFACTURING CO., INC.

Los Nietos, California

Branch Offices and Warehouses:
Bakersfield, Calif. Ventura, Calif.

Oil Well Supply Co., *Exclusive Distributors All Over the World (Except in California)*

Cable Address: "Smithco, Whittier"

HSC type C coring outfit

For

Ropeconomy

Use

WHITLOCK

Dependable Oil Well Cordage

FRICK REID

SUPPLY CORPORATION

STORES EVERYWHERE

Tulsa, Okla. Pittsburgh, Pa.

Alexson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps) etc.

Beaumont Iron Works Company
Dreadnaught Rotary Equipment Water-Cooled Drawworks, Pumping Hoists, Traveling Blocks, etc.

Donovan Boiler Works
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Frick-Reid Service Belting
Rubber Covered and Friction Surface.

National Transit Pump and Machine Co.
Power and Steam Pumps.

J. P. Ratigan
Grips, Clamps, Beam Hangers.

Joseph Reid Gas Engine Company
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.

Whitlock Cordage Co.
Manila Cordage, including Frick-Reid Manila Bull Ropes—same quality for ten years.

Jones & Laughlin Steel Corporation
Seamless and Lapwelded Tubular Goods.

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.

Rossendale-Reddaway Company
"Camel Hair" Beltings, Belt Clamps.

Engineering Crews
for the installation of Pumping Powers and related equipment.

F-R Bull Rope.
Same Quality
for Ten Years.
Made by Whitlock.

Say you saw it in The OIL WEEKLY

Lively . . .

Honest to Goodness

PULL

Active power—with a grip and pull like a bull dog's—that's the Rumely OilPull Winch Tractor—the pulling equipment that never gives in. It is a well-known fact that the Rumely OilPull Winch Tractor will pull rods and tubing faster and cheaper from any depth well. Depth means nothing to an OilPull—they're in use all over the world, pulling the deepest wells.

Designed with a knowledge of conditions, they are manufactured especially for oil field use. Engineers and superintendents are discovering that they can save at least two-thirds of the cost of original installations by using a Rumely OilPull Winch Tractor to handle a number of wells instead of individual pulling equipment for each well.

The first RUMELY OILPULL TRACTOR ever sold is still working.

Address all inquiries and orders to

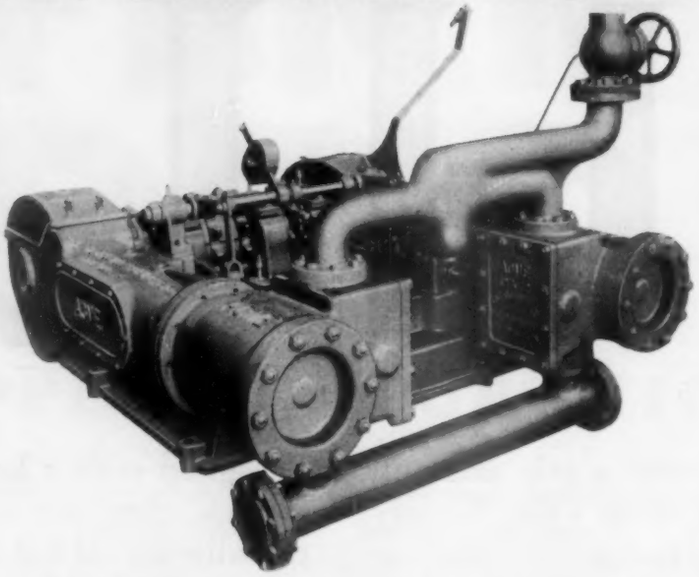
FRED E. COOPER

Special Rumely Representative and Developer of Oil Field Machinery

18 S. MADISON TULSA

Say you saw it in The OIL WEEKLY

TITUSVILLE ACME TWIN CYLINDER ENGINES



The Most Advanced Type of Steam Engine For Modern Rotary Drilling Operations Yet Developed

The design of the Titusville Twin Cylinder Engine is the perfected result of many years of expert study of the particular requirements of rotary drilling.

It combines the super-power of steam, a remarkable flexibility of control and a perfect smoothness of operation unrivalled by any rotary drilling engine in the field.

Constructed without a flywheel, the Acme Twin Cylinder Engine does not rack itself to pieces through excessive speed thus reducing to a minimum the danger of breaking a chain drive or twisting off the drill pipe.

The smooth impulse of power of the twin cylinder and the ease with which it can be controlled *at any speed* relieves stress on the rotary and draw works thus adding to their life and usefulness and reducing repairs and upkeep to the minimum.

It is the kind of engine that will meet your greatest expectations.

See your Continental Man.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE - PENNA.

Titusville Acme Boilers Single and Twin Steam Drilling Engines Tico Gas Engines Band Wheel and Geared Powers

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For California
CALIFORNIA MACHINERY SUPPLY CO.
615 Roosevelt Bldg.,
Los Angeles, Calif.

Titusville Acme Rotaries Acme Swivels and Speed Draw Works High Pressure Boilers Crown Blocks Slush Pumps

RUGGED - ENDURING

$40.00 Worth of Ham *and* Eggs

THEY still tell the story of the half-starved prospector who, with his pockets full of nuggets, busted into the mining camp cafe and demanded $40 worth of ham and eggs. He took on more than he needed, of course—by about 98%. Mopping up his second plate, and with nary another inch of room to spare, he saw that he had been able to eat only 2% of his order. The discovery didn't worry him, to be sure; but it's different when it happens in the Oil Industry.

Not long ago a prominent engineer, connected with a big manufacturer of oilfield pumping equipment, made a survey to determine what per cent of the time individual (stationary) draw-works and bull-wheel pulling units were actually used. He found that the figure was very close to 2%—with idle time of 98%.

Years ago the W-K-M Company, Inc., saw the vital need for pulling equipment which could be used 100% of the time, instead of only 2%. We began developing a line of tractor winches to meet the need. The famous W-K-M-Wilson winch for the Fordson Tractor, hundreds of which are in daily use, was the first of the line.

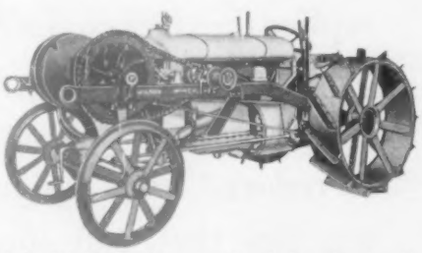
In the past month, two new and larger machines have been added. One is the W-K-M Deepwell Winch mounted on a special 15-30 McCormick Deering Tractor, and the other is the W-K-M Master Winch which was designed to be carried and operated on any type of truck. Either machine will do the work of fifteen individual (stationary) draw-works, or bull-wheel pulling units, and do it at a fraction of the cost.

Two very interesting illustrated descriptive pamphlets regarding these machines have just been completed. They give complete specifications, and go into details as to how either of the machines will save an operating company thousands of dollars annually.

Copies of both pamphlets will cheerfully be mailed on request. Write, wire, telephone or use the coupon attached. No obligation whatever, involved.

The W-K-M Deepwell Winch will pull a 5,000 foot string of 2" tubing on two lines. Great power and six forward and two reverse speeds adapt it for every oilfield requirement.

The W-K-M Master Winch will pull a 5,000 foot string of wet tubing on two lines. Goes anywhere on truck at top speed. Finest machine made for handling scattered wells on scattered leases.



The W-K-M Wilson Winch for the Fordson Tractor is used by operators in oil fields everywhere. The first machine ever built, now five years old, is still running every day.

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"Who is *that* man?"

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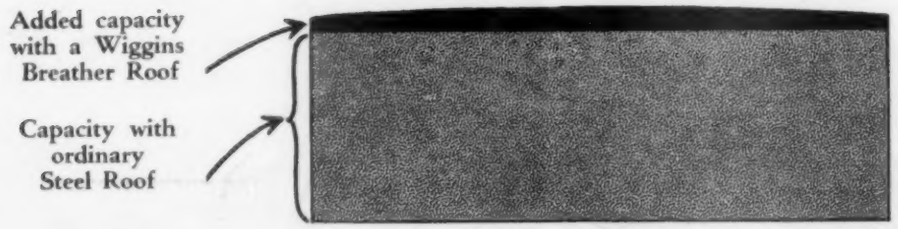

Increase the Capacity of Your Tanks by Installing Wiggins Breather Roofs

AN OIL TANK and roof enclose a given number of cubic feet of space. But with the ordinary cone roof, the upper portion of this space can not be filled with oil. So the capacity of a tank is less than its cubic contents.

On the contrary, every inch of space in a tank equipped with a Wiggins Breather Roof is usable space. You can fill a tank equipped with this roof until the oil actually stands at a level above the top of the shell. The roof rests directly on the oil, flexing up and down as the oil expands and contracts with changing temperature. On a 117 ft. diameter tank, the added storage thus obtained would amount to about 600 bbls. plus 2000 bbls. per ft. for the amount of outage allowed. You can get this added capacity either in your old tanks or in new ones.

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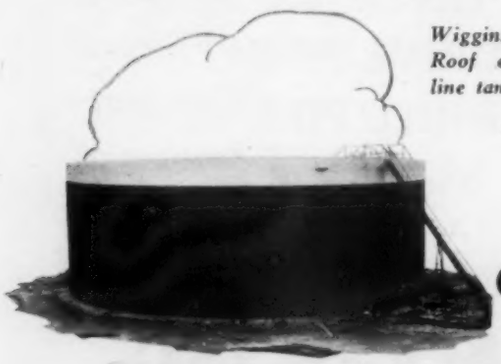
Again, this roof is desirable because it greatly retards the corrosion of roof plates when sulphur oil is stored. By keeping the oil in contact with the roof, the corrosion of the roof plates is no faster than on the sides of the tank. For producers, pipe line companies and refiners handling "sour" oil, this advantage is worth careful consideration.

Ask our nearest office for estimates on Wiggins Breather Roofs to stop evaporation, give you surplus capacity, and minimize corrosion.



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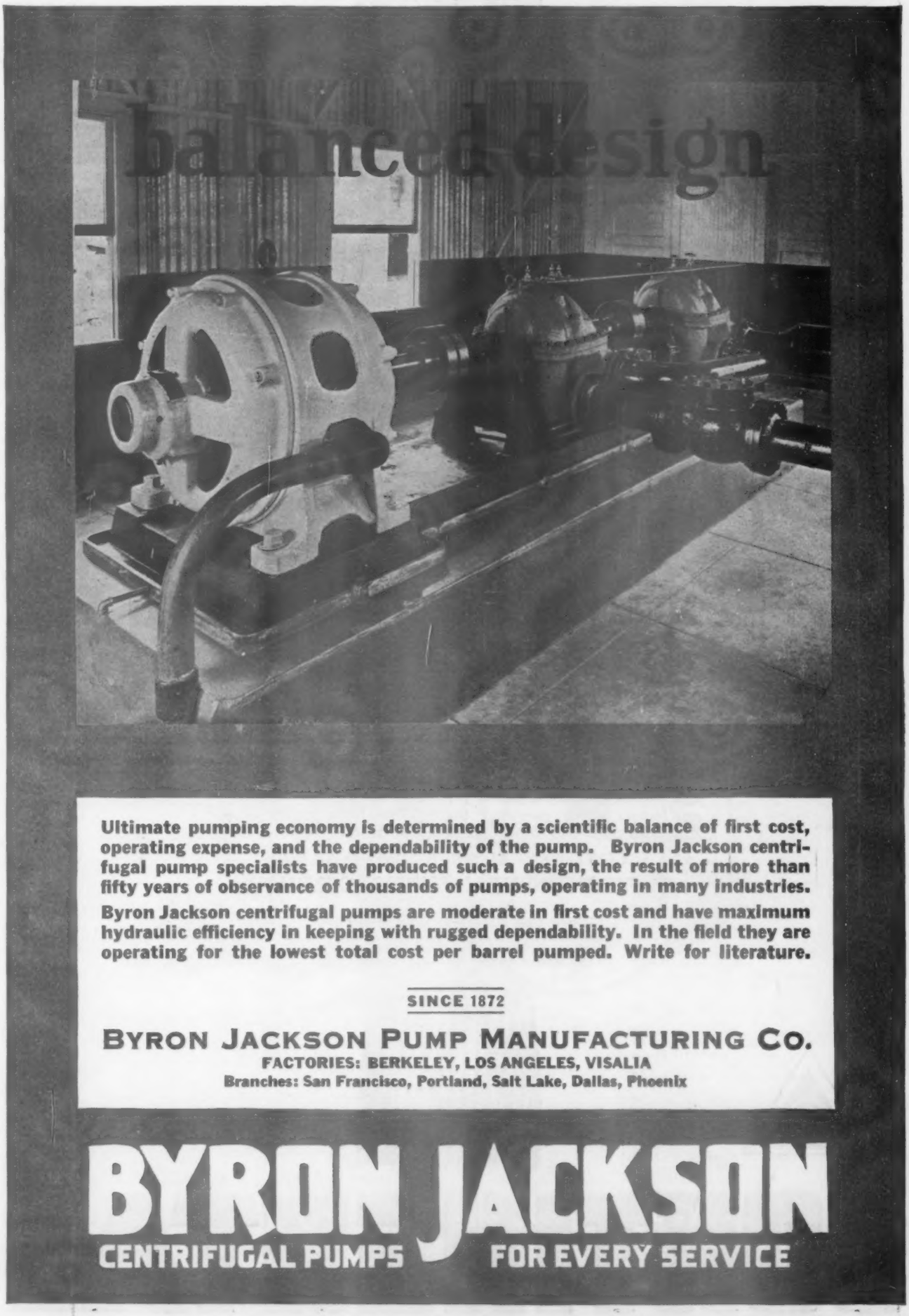

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CONTINENTAL

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INDEX OF ADVERTISERS

Acme Fishing Tool Company
J. S. Abercrombie Company
Ajax Iron Works 60 61
Alco Oil Tool Company
Allis-Chalmers Manufacturing Company
Allsteel Products Manufacturing Co.
Aluminum Company of America
American Association of Petroleum Geologists
American Cable Company
American Iron & Machine Works
American Manufacturing Company
American National Brokerage Company
American Roller Bearing Company
American Seamless Tube Corp. 104
American Schaeffer & Budenberg Corporation
American Telephone & Telegraph Co.
American Well Works 86
Andrews Steel Company 97
Arbon, Paul & Co.
Ash Grove Lime & Portland Cement Company 10
Askenia-Werke, A. G.
Athey Truss Wheel Company 8
Axelson Machine Company 4
Ayer & Lord Tie Company 90

B. & A. Specialty Company
Baash-Ross Tool Company
Baird Tool Works, Inc.
Baker Casing Shoe Company 22
Barber-Greene Company
William S. Barnickel & Company 96
Barnsley, R. O.
Bartlett-Hayward Company
Bartlesville Supply Company
Beebe Brothers 95
Bessemer Gas Engine Company
Ben Milam Hotel 103
Bethlehem Steel Company
Billings & Spencer Company
Bovaird Supply Company
Boykin Machinery & Supply Company 86
Bridgeport Machine Company 57
Broderick & Bascom Rope Company
Buckeye Traction Ditcher Company 97
Buda Company
Buffalo Bolt Company
Burns Tool Company 80
Butler Manufacturing Company
A. M. Byers Company 81
Byron Jackson Pump Company 19

Cameron Iron Works
Phillip Carey Company
Central Texas Land & Development Company
Chain Belt Company
Chamber of Commerce, Houston
Chicago Bridge & Iron Works 18
Chicago Pneumatic Tool Company 91
Chisholm-Moore Manufacturing Co. 9
Clark Brothers Company 6
Climax Engineering Company
Columbia Nut & Bolt Company
Columbian Steel Tank Company
Continental Supply Company 20
Cook Paint & Varnish Company
Fred E. Cooper 13
Crescent Belt Fastener Company 82
Crucible Steel Company of America
Cyclone Fence Company

D. & B. Pump & Supply Company 63
D. & M. Machine Works
Darling Valve & Manufacturing Co. .. 79
E. M. Dart Manufacturing Company ... 92
Diamond Drill Carbon Company 94
Drane-Humphrey Co., Inc.
Dunn Manufacturing Company

Economy Pump & Oil Tool Company
E. H. Edwards Manufacturing Company
Electric Controller Manufacturing Company
Edwards Wire Rope Company
Elliott Core Drilling Co.
Emsco Derrick & Equipment Company

Fearis Separator Company
Fenwick-Reddaway Manufacturing Co.
Fort Worth Laboratories 98
Franklin Valveless Engine Company ... 53
Frick-Reid Supply Corporation 12

Gardner-Denver Company
Gaso Pump & Burner Manufacturing Company 3
General Electric Company
B. F. Goodrich Rubber Company
H. P. Gott Manufacturing Company 94
Grant Oil Tool Company
Gray Tool Company
Guiberson Corporation 83
Gulf Publishing Company 51
Gulf Refining Company 106
Gulf States Utilities Company

Halliburton Oil Well Cementing Co.
Erle P. Halliburton Company 5
Hardway & Cathey 98
Haynes Stelite Company
Harrisburg Pipe & Pipe Bending Company ..... Third Cover
Harrisburg Pipe & Pipe Bending Company of Texas
Hart Brothers Machine Co.
Heppenstall Forge & Knife Company
Hercules Motors Corporation 85
Hercules Supply Company
Hercules Tool Company
Heydrick Mapping Company 98
Hill, Hubbell & Company
Hilton Hotels
Hinderliter Tool Company
Hirsch & Brown 98
Hobbs Manufacturing Company
Hopkins, Edwin B.
Charles N. Hough Manufacturing Co. 99
Houston Engineers
Hughes Tool Company ..... Fourth Cover
Humble Oil & Refining Company
Hunter-Walker Company 82
Hyatt Roller Bearing Company 45

Independent-Eastern Torpedo Company
Ingersoll-Rand Company
International Cement Corporation
International Derrick & Equipment Company ..... Front Cover
International Compositions Company
International Petroleum Exposition
International Supply Company

Jarecki Manufacturing Company
Jensen Brothers Manufacturing Co. .. 84
S. M. Jones Company 93
Jones Oil Well Reamer Company

Kansas City Hay Press Company
Kennedye Plumb Corporation 96
Kerotest Manufacturing Company
Keystone Pipe & Supply Company 92

Landis Machine Company
Larkin & Company
La Salle Hotel
Layne & Bowler Company
LeBus Rotary Tool Works
Linde Air Products Company 16
Link-Belt Company 71
Lucey Products Corporation
Ludlow Valve Manufacturing Company

McAlpin Hotel
McCollum Exploration Company 98
J. H. McEvoy & Co.
Maintenance Engineering Corporation 98
Magnolia Petroleum Corporation
Maloney Tank Manufacturing Company 78
Manzel Brothers Company
Martin-Loomis Corporation 73
Martin Wagon Company
Phillips Maverick 98
Mead Morrison Company
J. C. Melcher
Metric Metal Works
Miller Combination Bailer & Pump Company 68
Robert J. Miller Company
Mission Sales Company
Lee C. Moore & Company ..... Insert

National Petroleum Engineering Co.
National Supply Companies 105
National Transit Pump & Machine Company
National Tube Company
Neil House
Norris Brothers 99
Northrup Equipment Company
Norvell-Wilder Hardware Company
R. D. Nuttall Company
Nye Tool & Machine Works 7

O'Brien Steel Construction Company .. 103
Oil City Iron Works
O. C. S. Manufacturing Company 72
Oil Well Supply Company 24
Osage Indian Agency 99
Oxweld Acetylene Company

Parkersburg Rig & Reel Company
Patterson-Ballagh Corporation 55
Pattin Brothers Company 87
Pecos Valley Power & Light Company
Peden Iron & Steel Company 88
Penberthy Injector Company
Petroleum Engineering University
Petroleum Rectifying Company
Philadelphia Gear Works
Pittsburgh Equitable Meter Company
Pittsburgh Steel Products Company
Polk, R. L., & Co.
Pratt & Whitney Company
Prest-O-Lite Company

Quinn, F. D.

Reading Iron Company
Reed Roller Bit Company
Regan Forge & Engineering Company
Joseph Reid Gas Engine Company 77
Republic Supply Company 75
Republic Iron & Steel Company
R. F. Electrical Company
Rhode Island Fittings Company 95
Rollway Bearing Company
Rotary Supply Company

Safety Pulling Machine Company
Sam Houston Hotel 103
Schroeder Products & Mfg. Co.
J. E. Shaffer Company
Shaffer Specialty Company
Shaffer Tool Works
Sheffield Steel Corporation
Sinclair Refining Company 65
S-K-F Industries
A. O. Smith Corporation
Smith Separator Company 89
H. C. Smith Manufacturing Company. 11
Howard Smith Company
South Chester Tube Company
Southern Engine & Pump Company .. 94
Southern Pacific Lines 90
Spang & Company ..... Second Cover
Spang Chalfant & Company 17
Stanley Belting Corporation 95
Star Drilling Machine Company
Standard Seamless Tube Company
Jesse R. Stone 98
Sullivan Machinery Company

Templeton, Kenley & Company
Texas Creosoting Company
Texas Cyclone Fence Company
The Texas Company
Texas Power & Light Company 49
Timken Roller Bearing Company
Texas Sand & Gravel Company 98
Titusville Iron Works 14
Edgar Tobin Aerial Surveys 84
Traction Machine Company 88
Trimont Manufacturing Company
Trumble Gas Trap Company
Tulsa Pump Company
Twin Disc Clutch Company
Tyler Tube & Pipe Company 97

Union Manufacturing Company 96
United Iron Works
United States Torpedo Company 92
U. S. Tool Company

The Vez Company

Warwick Hotel
Waukesha Motor Company 100
C. W. Webster 98
John F. Weinzierl 98
Westinghouse Electric & Manufacturing Company
Wescott & Greis
Western Metal Manufacturing Co.
West Texas Utilities Company
Wickwire-Spencer Steel Company 95
Wico Electric Company
J. H. Williams & Company
Williamsport Wire Rope Company
Wilson Oil Tools Corp.
Wilson-Snyder Manufacturing Company
W-K-M Company 15
T. T. Word Supply Company

Yale & Towne Manufacturing Company

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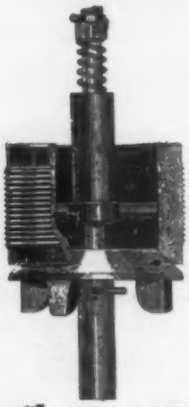

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Valve Assembly

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It saves wire lines, brake bands and other rig equipment. It prevents accidents and losses due to parted strings.

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The OIL WEEKLY

Edited Weekly at Houston, Texas SPENCER W. ROBINSON, *Editor*

TABLE OF CONTENTS

Features

SEASONABLE SLUMP EFFECTS REFINERS MARKET ON GASOLINE 25
By Kent Ridley

ALLOWED PRODUCTION FROM HENDRICK FIELD REDUCED BY COMMISSION 27
By H. H. King

OKLAHOMA OUTPUT WILL BE LIMITED TO 700,000 BARRELS 28

TEST FLOW RUNS SEMINOLE OUTPUT TO NEW HIGH FOR YEAR 29
By Wallace Davis

MARLAND AGREES TO EXTEND SHUT-DOWN IN MISSION AREA 30

NEW AREA OPENED FIVE MILES SOUTHEAST OF HENDRICK FIELD 31
By H. H. King

THE PRICE OF PROSPERITY IN THE PETROLEUM INDUSTRY 33
By Joseph E. Pogue

CASING PROTECTORS ON DRILL PIPE 34
By M. Manning

LONG BEACH PRODUCTION CLIMBS TO 212,500 BARRELS 35
By Brad Mills

TRACTS TO BE OFFERED AT OSAGE SALE 37

CHAMPAGNOLLE INTEREST SHIFTS TO WESTERN EDGE 41

OKLAHOMA GAINS SENDS PRODUCTION UP DURING AUGUST 43
By A. R. McTee

SUMMARY OF FIELD OPERATIONS FOR AUGUST 46

THE BIG ROTARY RIG OF TODAY (Part Three) 50
By Harry Pennington

Departments

UNITED STATES PRODUCTION—A. P. I. FIGURES 62
COMPLETIONS FOR THE PAST WEEK IN ALL U. S. FIELDS 67
PERMITS GRANTED FOR NEW WELLS DURING THE PAST WEEK 70
WILDCAT DRILLING REPORTS FROM ALL IMPORTANT AREAS 76
NEW EQUIPMENT, CATALOGS, BULLETINS AND BOOKS 101
SQUEAKS FROM THE BULL WHEEL 104
CRUDE OIL PRICE QUOTATIONS 64
WEST TEXAS PRODUCTION DETAILS 42
PERSONAL MENTION 48
MOUNTAIN STATES FIELD DEVELOPMENT NOTES 39
DEVELOPMENTS IN GULF COAST FIELDS 39

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Seasonable Slump Effects Refiners Market on Gasoline

Production reaches new high point for year, but proration changes now in effect will serve to reduce output in Oklahoma and Texas

By KENT RIDLEY

ENFORCEMENT of the new proration order in Oklahoma and a reduction of 25,000 barrels in recovery in the Hendrick field in West Texas, should serve to quickly offset a rise in United States production which sent the daily average last week to the highest point reached during the present year. The total shown by American Petroleum Institute estimates for the week ending September 15, was 2,504,900 barrels, an increase over the previous week of 10,700 barrels, and 1650 barrels above the previous high mark for the year which was reached three weeks ago.

Oklahoma, under the influence of the Seminole district, had an increase of 20,500, the total of 726,550 barrels being the high point for the year in that state, an open flow test to determine potential output being a factor in reaching that figure. Other districts showing increases were Arkansas, up 550 barrels after a period of steady decline, and the Rocky Mountain region where the increase of 2500 barrels is typical of that region's recent fluctuations. Texas shows a loss of 9400 barrels and other districts show only nominal changes, all down.

Gasoline Demand Slackens

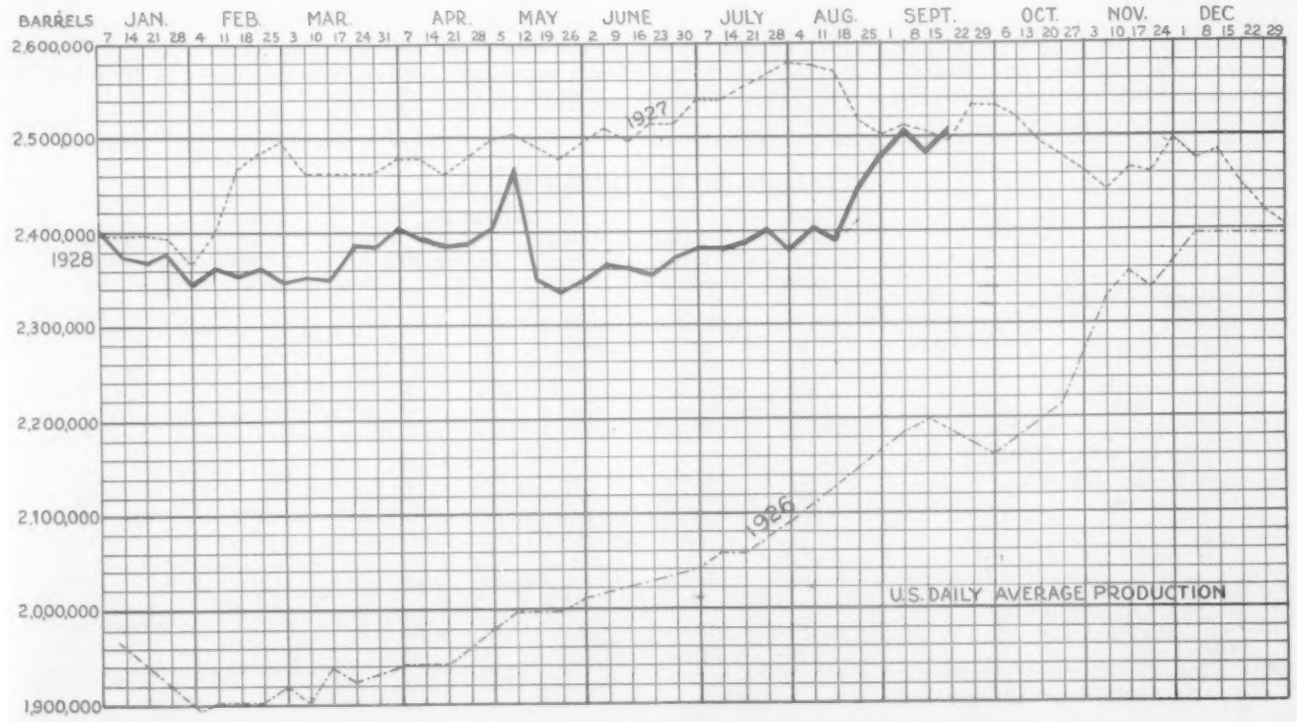
Gasoline consumption is being effected by the season sufficiently that the range of price offers is being widened.

Allowable daily production of the Hendrick field, which ranks second to the Long Beach field, California, in leadership on individual field production for the United States, will probably be reduced from 175,000 to 150,000 barrels effective October 1. The proration advisory committee for the former field voted to cut 25,000 barrels off current output, owing to excessive water encroachment lately, and also because of the slackened demand for West Texas crudes in the major marketing centers. The committee has requested the Texas Railroad Commission to hold a hearing, and issue an order for the reduction.

Major refining interests have restricted their purchases of West Texas sulphur contaminated crudes since the passing of the peak demand for gasoline early this month, and several of the largest crude buyers in the West Texas district report a rapid increase in crude runs to field storage and to reserve tankage on the Gulf Coast within the past two weeks. One of the pipe line companies affected by this change in market conditions reports 20,000 barrels daily going into storage, as compared to withdrawals less than two months ago.

This proposed reduction in output of the Hendrick field is expected to materially aid the water situation, and

UNITED STATES CRUDE PRODUCTION TREND



prolong the life of the flowing wells, while it will also help to balance up the supply and demand before a general weakness develops. "Distress" crude has been reduced to a negligible volume during recent weeks in West Texas, and if production is restricted further during the winter months the permanent market outlets are expected to hold the posted price at its present level of 65 cents per barrel.

West Texas operators, as a whole, have prorated and restricted production in the disturbing areas in greater proportions than that accomplished by all other states combined. Latest official potential production gauges of wells in the Hendrick field credit it with an estimated daily output of 2,505,902 barrels, and actual daily production is being limited to slightly less than seven per cent. of the potential. The Yates field's latest potential production gauge was reported at 2,997,252 barrels, with a limit of 72,500 barrels daily production in effect, or slightly more than two per cent of the potential. The deep pay horizons in Howard County are being restricted to about 50 per cent of the potential, with a limit of 25,000 barrels daily fixed for the next five months.

A new record for brief open flow production in the Yates shallow field, was recorded late last week when Mid-Kansas Oil & Gas Company and Transcontinental Oil Company's I. G. Yates 5-D gauged 4007 barrels of 30 gravity oil in 45 minutes through two 6⅝ and a pair of four-inch flow lines, or at the rate of 128,573.76 barrels daily, with about 100 barrels of oil overflowing the tanks when the gauge was taken.

The passing of the excessive summer demand for gasoline is beginning to reflect in sales of this commodity in the North Texas refining centers, and prices are taking a wider range, with current quotations on U. S. motor gasoline varying from nine to 9¼ cents per gallon early this week. The demand for kerosene continues favorable, while fuel oil prices have been slowly recovering from their July and early August slump. Standard grades of fuel oil in the North Texas district range from 52½ to 57½ cents per barrel in price, while plants in West Texas quote from 10 to 15 cents per barrel lower, because of freight differential. Ten or more refining and skimming plant owners situated on the Texas & Pacific Railroad between El Paso and Shreveport submitted bids in Dallas last week for a 220,000 barrel fuel oil contract offered by this carrier for delivery over a period, or at rate of 55,000 barrels monthly. The Coltex Refining Company, Colorado, Texas, is reported to have been the successful bidder.

Los Angeles.—The Texas Company has encountered the Buckbee zone at 5680 feet in Matern 2-7 in the Santa Fe Springs field, giving the first positive clue as to where the deep zone will be found. This discovery is very important, and checks closely with the depth at which Wilshire Oil Company supposedly found the sand.

Flush crude yield from South Little River and St. Louis fields that increased the output of Greater Seminole and St. Louis to a combined total to 446,000 barrels the middle of last week while potential gauges were being taken, had fallen September 15 to 420,000 barrels, putting the state's crude situation in a much better light. While statewide proration of the Corporation Commission went into effect Friday of last week, prorating flush fields 10 per cent, it is evident that the big head on both new pools was weakening and that the drop results mainly from natural causes. Thus proration had little work to do at its initial outset. The Seminole pools were on the decline at the close of the week, and were estimated to continue hitting a lower figure, while St. Louis field is expected to hold pretty well its mark of more than 100,000 barrels by virtue of the many wells nearing pay in the Wilcox and Simpson sand areas.

Oklahoma-Kansas Gasoline

Contrary to estimates that gasoline would see another cut at refineries early last week the market continued with fairly heavy buying through the week, and U. S. Motor gasoline held at 9¾ cents at the refineries in Kansas and Oklahoma. Gasoline stocks are still reported low in this territory, and domestic sales were showing no tendency to fall off.

Kerosene held at 6½ to 6¾ cents through the week for 41-43 grade, while the 42-44 product was bringing 7⅛ to 7¼ cents.

Natural gasoline hinged around 8½ to 8¼ cents with an apparent check on the price decline temporarily. Fuel oils of 24-26 gravity were holding at 62½ to 67½ cents per barrel.

California

The recent boost in the posted price of California crude has been reflected in a mild movement to bring about higher gasoline prices. One of the main reasons of the crude increase was to erase a slight inconsistency existing between the price of the raw product and the service station price of gasoline. By increasing gasoline, it has been pointed out that the old technical position would again be created. Such a procedure also would be of great aid to dealers inclined toward bootlegging. Soon after the price adjustment, many dealers advanced their service station price to conform with that of the so-called "regular" dealers. Much more harmony exists under cover in California than before the crude boost. With a service station price of 20½ cents, the large refiner has been able to meet competition. The possibility of an increase in both crude and gasoline is being discussed, but such a step does not seem justified at this time.

Details on Critical Fields

	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	334	1,887,075	5,649	358	177,470	*496	20	113
Church-Fields	187	203,545	1,088	185	32,920	178	..	...
Gulf-McElroy	64	54,370	850	63	13,515	215	..	2
Yates	260	1,683,210	6,474	262	76,330	*291	3	18
Totals	845	3,828,200	4,530	868	300,235	346	23	133
TEXAS PANHANDLE—								
Hutchinson County	1117	547,060	488	986	32,735	33	7	20
Gray County	263	110,900	422	252	21,820	87	10	56
Carson County	180	59,270	329	151	6,660	44	3	10
Wheeler County	44	14,645	333	35	820	23	7	13
Totals	1604	731,875	456	1424	62,035	44	27	99
OKLAHOMA—								
*Greater Seminole	1459	1,979,940	1,356	1,207	311,219	257	28	134
*St. Louis	139	160,635	1,155	133	109,020	819	14	123

*Production partially pinched.

Allowed Production From Hendrick Field Reduced by Commission

Order follows request from operators who thus seek to combat encroachment of sulphur water which is endangering field

By H. H. KING
Staff Representative

FORT WORTH.—Approval of the Texas Railroad Commission was given Tuesday after a special hearing for the reduction of the allowable production in the Hendrick field from one hundred seventy-five to one hundred fifty thousand barrels effective October 1, and the commission also announced that the enforcement of proration in this field will be extended for six months after the present half-year period expires November 5. An official order will be issued by the commission immediately on the above change in the Hendrick field proration rules.

Prompt action was taken by the commission in approving the Hendrick field proration advisory committee's request, which was made September 14, for a reduction in daily production. The hearing was held in Fort Worth, with representatives of most of the producing units present. Some opposition was registered against the 25,000-barrel reduction, but sufficient evidence was introduced at the hearing to cause the commission, which was represented by Chairman Clarence E. Gilmore and C. V. Terrell, to act favorably on the advisory committee's recommendations.

Water encroachment upon the oil and gas horizons in the Hendrick field is expected to be retarded by further restricting the output of the field, which is now producing slightly less than seven per cent of its estimated potential daily flow, and the water situation was pictured as being serious enough to necessitate the reduced flow of oil. However, declining demand for West Texas crudes also was a factor involved.

The Yates field proration advisory committee also held a special meeting in Fort Worth Tuesday, with W. A. Moncrief chairman, presiding, and voted to recommend that the Texas Railroad Commission revise its proration rules to permit bi-monthly potential production gauges on new wells completed, or those deepened. The existing rules permits a gauge at the beginning of each calendar month, and new wells completed during the month must remain inactive over the remainder of the month. The commission is expected to issue an order covering this request shortly.

FORT WORTH, Texas — Rapid spread of sulphur water in the most prolific oil and gas producing section of the Hendrick field, West Texas district, was described as being a serious menace to the flowing life of the field by operators at a special meeting held here September 14. The meeting was called by J. D. Collett, chairman of the Proration Advisory Committee, and resulted in this committee making recommendations to the Texas Railroad Commission to reduce the allowable production of the field 25,000 barrels to 150,000 barrels maximum daily flow effective October 1, while the operators voted to immediately launch a drive against the water encroachment through a committee of field men. This latter committee will be charged with the responsibility of seeing that proper water shutoffs are given the upper pay horizons by operators deepening old producers.

Water encroachment upon the Hendrick field is primarily the cause for the advisory committee asking the Texas Railroad Commission to issue an order to reduce the allowable production from 175,000 to 150,000 barrels daily, but a noticeable slack in demand for West Texas crudes since the first of the month is another factor taken into consideration. The field has been allowed to produce a maximum of 175,000 barrels daily since June 16, having had a limit of 150,000 barrels daily from this date back to May 5, when proration was first applied to the field by the commission. The reduction amounts to one-seventh of the output, and will be proportionately distributed among the operators, thus causing comparatively little loss in revenue to the individual producing unit. The estimated potential daily production of the field on September 15 was placed at 2,505,902 barrels, or a gain of 211,231 barrels, when compared to the estimated daily potential on September 1. During the next proration period the operators will be allowed to produce slightly under 7 per cent. of their estimated potential production, and if the potential production is not boosted by October 1, when the reduction goes into effect, the operators will be allowed to produce a fraction under 6 per cent. of their potential.

Hold to Quota

Mr. Collett presided as chairman of the meeting of operators to discuss the water situation, and expressed his appreciation of the co-operation given by operators to the advisory committee and Umpire Harold Pardee in making proration a success. The field has produced in excess of 42,-

HENDRICK FIELD PRORATION GAUGES

Expansion of development and inchease in potential daily production since proration was applied May 5, 1928, is illustrated by the following comparative gauges:

Date gauged—	40-Acre Units	Wells	Daily Potent. Production	Daily Allow. Production
May 5	79	164	521,601	150,000
May 16	82	173	643,973	150,000
June 1	93	187	839,786	150,000
June 16	105	210	1,060,083	175,000
July 1	114	234	1,242,348	175,000
July 16	128	260	1,376,861	175,000
August 1	137	287	1,808,076	175,000
August 16	148	312	2,087,548	175,000
September 1	152	330	2,294,671	175,000
September 16	161	350	2,505,902	175,000

000,000 barrels of pipe line oil, according to Mr. Collett, and during the period that proration has been in effect the field had produced only 11,000 barrels of oil in excess of the quota fixed by the Railroad Commission. Some of the operators exceeded their allowable quotas occasionally by reason of having wells that were hard to control, or through negligence, but have been diligent in "paying back," while a few are unable to make their quota.

The north end of the Hendrick structure which is also the most recently developed, has been the principal source of rapid spread of water lately, and declining rock pressure has followed this encroachment with the result that the flowing life of the area will be greatly shortened unless proper measures are taken to retard the water. Deepening of old wells that were originally completed in the top pay, and passing up the top pay because of the presence of water, or absence of flush oil production, has aggravated the water situation, since only a few of the operators take the precaution to shut off the water horizons passed through in reaching the lower oil and gas horizons. The purpose of the meeting of the operators Friday was to take necessary steps to seal off these troublesome water horizons by mudding off or cementing.

Operators were reminded of the almost unbroken rule of wildcatters in casing, or mudding off upper waters in trying for production in a likely territory in order to have better assurance of a well, while in deepening wells in the Hendrick field the operators have been negligent in shutting off heavy flows of water encountered between pays with the result that the water situation is becoming cricitcal as the deepening campaign grows. About 44 old producers in the field have been deepen successfully to a lower pay in various sections of the field, while work is under way, or getting starting on about 60 more wells, of which some have developed 100 per cent. water flow in the top pay. Further peneration of the big lime horizon is not successful in all sections of the field, as illustrated recently by the California Company's Hendrick 3, which cased off a small producer making lots of water in the top pay, and encountered three separate water horizons and no oil after drilling to 3610 feet, and is now plugging back to 2995 feet to try and revive the original oil pay.

Slack on Cementing

The uncertainty of the successful completion of a good well in the lower pay has caused the operators to hesitate on cementing off water horizons, as in most instances the operators plan to plug back to the original pay in the event of a failure. The scarcity of mud and excessive costs, which average about $11 per ton, delivered at the well, boosts the costs to a high mark in mudding off water horizons. Most of the mud used in the field is obtained from New Mexico or across a county to the south.

Individual operators expressed their views on the water situation at the meeting Friday, and all were unanimous in the opinion that it was reaching serious proportions, and prompt steps should be taken to remedy the situation. Introduction of motions to have a fixed set of rules governing deepening methods was tabled, because each well in the field offers individual problems that would have to be treated as such.

The water situation in the south and middle section of the field has not been spreading so rapidly since proration was put into effect, as the heavy gas had been greatly dissipated before proration, and enforcement has since served to retain a steady pressure on the pay. In the north end the "head" is still on the pay, and when wells are drilled into water it is swiftly carried through the porous formations to nearby leases with disasterous results, often killing good wells in all directions. The water trend on the south end of the structure is working in a northeast direction, while on the north end the trend is traveling to the east, with the worst water existing on the west side of the structure in this particular section.

Contrary to conditions in most fields, the water horizons in the Hendrick field has no relation to sea level, and many wells comparatively high on structure have developed 100 per cent. water wells on short notice, while nearby producers logging the key formations low on structure make pipe line oil. Water analysis have little value, since the porous nature of the big lime often leads to so-called bottom water finding its way to the top of the oil pay.

Committee Recalled

The operators voted their approval of a motion to revive the inactive field committee, which was organized at the beginning of proration to aid the advisory committee and Railroad Commission in handling field problems, but became inactive after restricted production became a routine matter. This committee will consist of one field representative of each operator, and is to use its influence in enforcing conservation rules outlined by the Texas Railroad Commission in regard to handling upper and bottom hole waters. Operators desiring to deepen old wells will make written application for permit to do so, stating condition of hole, and the committee will make recommendations as to proper handling of the well, should a bad dose of water be encountered, but enforcement of such regulations will be entirely up to the deputy supervisor on duty in the district.

The first meeting of the field committee has been set for 2 p. m., Friday, September 21, at Southern Crude Oil Purchasing Company's camp, at Wink, and at this meeting a chairman will be elected. Prompt action is to be taken on correcting the spread of water in a group of wells that are known to be contaminating the oil horizon in the north end of the field, and owners of these wells will be requested to kill them with heavy mud, or cement a string of casing, to seal off the water.

Several requests for permits to shoot comparatively small oil producers developed on the east side of the field were denied by the Hendrick field advisory committee at a hearing Friday, owing to the danger of this practice spreading.

Oklahoma Output to be Limited to 700,000 Barrels

TULSA. — Oklahoma's flush oil fields are now laboring under the restriction of 425,000 barrels combined daily output. The task of holding these areas within this figure falls upon Ray M. Collins, who as umpire of the prorating program of the Greater Seminole area has become the agent of the Corporation Commission of Oklahoma to enforce its order of September 10, which set 700,000 barrels as the limit of Oklahoma production daily.

Of this grand total, 275,000 was appropriated to the settled fields, leaving the flush fields with the remainder.

The flush fields are Seminole City, Little River, Bowlegs, Searight, Earlsboro, St. Louis, Allen and Lovell. The distinction between settled and flush pools was determined on the basis of 100 barrels as an average per well. Fields with a well average that are in the settled class. Those higher are in the flush division.

Should the order of the Commission be changed to decrease or increase the 700,000 barrels for the daily Oklahoma total, the settled fields will be allowed the 275,000 barrels, leaving the flush areas with the remainder.

The output of any flush field shall be the amount that that field bears in relation to the total potential production of all flush pools.

In regard to wildcats the order provides that any wildcat well, completed for one hundred barrels or more, shall for 30 days be pinched to one hundred barrels daily. No other well shall be started within one mile of such a wildcat for the period the well is pinched. During this 30-day period leaseholders will be called together to agree upon a development plan, which must conform to the present Commission order or the one then in force.

The output and proration figures of each flush pool to be determined twice each month. First gauges were taken September 10 and September 11. Gauges will be taken again September 13 and again October 15.

Daily reports on wells and leases in the flush pools will be available to Umpire Collins through the meetings of scouts in the areas. Where the umpire demands, he shall have authority to examine the records of companies and individuals as well as authority to go to any lease and make gauges himself.

Test Flow Runs Seminole Output To New High for Year

Decline which follows is partly due to proration order in effect, but natural forces are factor; drilling in Little River area less active

By WALLACE DAVIS
Staff Representative

TULSA—Discovery of Wilcox sand production in the Sasakwa extension of Allen field, Seminole County, September 16, by Sinclair Oil & Gas Company brings another new angle of great importance into this general territory of prolific production. It goes further toward forecasting the probability of Wilcox pay in all of the fields in the proximity of Greater Seminole producing group.

Sinclair's Amos B-2, in the center of the southeast corner of the northeast of the southwest of Section 7-5-8, southeastern extremities of Seminole County, and approximately three-quarters of a mile northwest of the Canadian River, flowed 52 barrels an hour initial from Wilcox sand topped at 4158 feet and drilled two feet. Viola lime was encountered at 4015 feet. The Sinclair announced its intention of pinching the new well to 50 barrels daily to conform to proration in effect in the Allen-Sasakwa field. The Wilcox well is on the northwest edge of the extension, which one year ago brought Cromwell sand production across the river. The original Allen extension was made about two years ago with the finding of deep pay, 2400 to 2750 feet, about two miles northwest of old shallow production in Allen field of 700 to 1400 feet production. Extensive development in this extension continued to open better production northwest until the Seminole and Hughes County side of the river was brought into play. Since then the best Allen field recovery has been developed on the Seminole County side, Cromwell sand wells having yielded as high as 4500 barrels initial output.

Finding of Wilcox sand production in this area is expected to result in considerable deep drilling of new locations besides an extensive deepening program in old wells. Allen-Sasakwa field now has 130 so-called deep producers (Cromwell sand at 2400-2750 feet) making an average of 21,000 barrels daily. Apparently these wells will now lose their name as the field's deep producers. The field is included in the group classed as flush fields in Oklahoma, and comes under the 10 per cent. proration ordered by the Corporation Commission effective September 15.

Amos B-2 is in the southeast corner of Sinclair Oil Company's 80-acre Amos "B" lease and is offset on the east by Mid-Continent Petroleum Corporation's 120-acre Fleet lease, one of the outstanding leases in the extension for big production. Directly south of the producer, Sunray Oil Corporation has a 20-acre tract which is offset on the south by a 20-acre tract of the Louisiana Oil Refining Corporation and on the west by a 40-acre tract of Ramsey Brothers. Lyons Petroleum (Prairie Oil & Gas Company) has a 160-acre lease offsetting Sinclair on the north, a tract which has not been drilled to production. Included in the producing concerns having acreage in the Sasakwa extension are Sinclair Oil and Gas Company, Ramsey Brothers, Sunray Oil Corporation, Mid-Continent, Gilcrease Oil Company, Louisiana Oil Refining Corporation, Indian Territory Illuminating Oil Company, The Texas Company, Anderson & Prichard, T. B. Slick and Magnolia Petroleum Company. This area has an unusually high gas pressure, and nine wells good for 40,000,000 feet of gas or more have been completed in the immediate area. There are 48 producing oil wells in the extension north of the Canadian River.

Gravity of the new Wilcox well production is 37.2, corrected.

Seminole Production Down

After reaching a new peak for the year by producing 334,283 barrels, September 11, from 1196 wells, while all wells were open to capacity for a potential gauge, Greater Seminole fields took a sharp decline through the past week to gauge 306,728 barrels Monday. This represents a loss of 27,555 barrels daily within six days. While proration of 10 per cent. was under way to conform with the Corporation Commission's recent ruling, which became effective September 15, there is a natural decline in evidence in the fields, especially in South Little River.

Of the 101 completed producers in the south extension of Little River, there were 14 showing water Monday and 52 being flowed by air or gas lift. There were 11 dry holes defining the pool, most of which are on the west side, in Section 15-7-6. The pressure continues weakening, and nine out of ten wells now coming in are producing their initial yield by swabbing.

Production in Greater Seminole for September 16 and 17 by fields is listed as follows:

Field—	Sept. 16	Sept. 17	Wells
Little River ...	118,671	117,027	241
Earlsboro	87,879	86,703	283
Bowlegs	47,496	47,204	216
Seminole City..	43,934	43,339	290
Searight	11,784	12,327	69
Maud	59	48	5
Mission	30	80	9
Total 309,853		306,728	1,213

St. Louis field, the busiest spot in the Mid-Continent today, hit a new peak in production September 14, making 112,832 barrels from 130 wells. Proration became effective there on the following day, and was aided by weakened pressure to result in a 4800 barrel loss. During the four following days production held fairly steady, with new well completions offsetting the loss in some wells going dead and other big producers decreasing in yield.

Production at St. Louis for September 16 and 17 from Simpson and Wilcox wells was as follows, and includes the field's total output except for 47 small Hunton lime wells which are consistently producing between 3000 and 4000 barrels:

	Sept. 16	Sept. 17	Wells
Wilcox	78,940	75,046	16
Simpson	30,600	31,132	71

There were 157 operations in St. Louis Field September 15, including 120 wells drilling, eight rigging up, 24 rigs completed, three wells shut down and two locations.

Mid-Continent Petroleum Corporation, late last week, deepened Guinn 1, in the southwest of the southeast of the southeast of Section 20-7-5, Wilcox extensioner, one foot to 4226 feet, and production increased to 4200 barrels from 3500 barrels. This company has made location for Guinn 3, in the northeast of the southeast of the northeast of Section 20. Gypsy Oil Company made location for No. 2, in the southwest of the southwest of the northwest of Section 29-7-5, and Cal-Cul Oil Company staked location for Davis 1, in the southwest of the southeast of the southwest of Section 19-8-5, one mile north of St. Louis field's Wilcox sand production. Gypsy also made location for Bruno 4, in the northwest of the northeast of the northwest of Section 25-7-4, the Simpson sand vicinity of St. Louis field.

T. B. Slick completed Youts 1 as a Wilcox producer from 4306 feet in the northeast of the southeast of the southwest of Section 19-7-5, making 3799 barrels on air. Phillips Petroleum Company's Stahl 1, in the northwest of the northeast of Section 30-7-5, had a fishing job at 4148 feet. It is producing but was incompleted. Stahl 2, an east offset, which produced 7300 barrels from Wilcox two weeks ago, went dead Sunday. Wilcox sand in this well was from 4220-26 feet.

Little River Activity Declining

Few new wells of consequence were added to South Little River during the

week, but interesting shows were made Monday. T. B. Slick's Carter 1, in the northwest of the southeast of the northwest of Section 13-7-6, a half mile east of the regular edge of production, and a south offset to Independent Oil & Gas Company's Wood 1 dry hole, had 3000 feet of oil in the hole at 4243-44 feet in Wilcox sand. Wood 1 had a hole full of water three weeks ago at 4400-07 feet in Wilcox sand. Prairie Oil & Gas Company's Moppin 1, in the northwest of the southwest of the northwest of Section 24-7-6, swabbed 825 barrels from Wilcox at 4458-70 feet. The most interesting location in South Little River is T. B. Slick, in the northeast of the southwest of Section 26, one mile south of production, which Monday had an oil show in Simpson sand at 4415 feet after topping this formation at 4375 feet. Gypsy Oil Company's Conrad 3, in the southwest of the northeast of the northeast of Section 22, swabbed 685 barrels in 17 hours from Wilcox at 4290-4303 feet. It diagonally offsets No. 2 on the southwest, and the latter did not encounter Simpson sand until drilling to 5285 feet. Monday it was shut down at 5375 feet with 1500 feet of water in the hole from Simpson. Viola lime was topped at 5215 feet. T. B. Slick's Williams 1, in the northeast of the southeast of the northeast of Section 15, on the west edge of South Little River field, made 300 barrels Sunday and was cutting 20 per cent. Carter Oil Company's Thomas 1, in the southwest of the northeast of the southeast of Section 11-7-6, swabbed 180 barrels of oil and 500 barrels of water from Wilcox sand at 4144-57 feet September 14. Skelly Oil Company's Carl 2, in the northwest of the southeast of the northeast of Section 14, swabbed 408 barrels of oil in 17 hours from Wilcox at 4585-96 feet. Sinclair Oil & Gas Company's Tewee 2, in the southwest of the northeast of Section 14, topped Viola lime at 4167, Simpson sand at 4245 feet and was drilling at 4285 feet in a dry hole September 15. Gypsy Oil Company's Hulhoke 8, in the northwest of the southeast of the southeast of Section 14, had Wilcox at 4430-40 feet and flowed 220 barrels in 11 hours on air. Independent Oil & Gas Company's Tewee 3, in the southwest of the northwest of the southeast of Section 14, swabbed 882 barrels in 19 hours.

Of outstanding interest in the Maud area is Barnsdall Oil Corporation's Dorsey Fife, in the northeast of the northwest of Section 14-8-5, which went dead last week after being produced from Wilcox at the rate of 350 barrels per week for the past eight months. Opened for its regular proration allowance early in the week, it flowed 40 barrels in one hour and then went dead. Later it swabbed about 200 barrels in two hours. The initial of this well was 1360 barrels in December, 1927.

New addition of line units into St. Louis field is fast turning this area's line system into a complete net-work of carriers. Prairie Pipe Line Company's system out of St. Louis field has been augmented by new boosting facilities and tested 42,000 barrel capacity recently, which, with that of Sinclair Pipe Line Company, Oklahoma Pipe Line Company, Independent Pipe Line Company, and Shell Pipe Line Company's crude moving facilities runs the line outlets of the field to near 140,000 barrels daily on completion.

Interesting Kansas Well

New interest is attracted to McPherson County Kansas' oil strike of two months ago by the deepening of Mid-Kansas Oil & Gas Company's Larson 1, in the center of the northeast of the southwest of Section 31-18s-2w, two and one-half feet to 2980 feet to increase production from 130 barrels to 340 barrels. This producer is approximately three-quarters of a mile south of the McPherson gas field, and is the only oil producer in the immediate vicinity. It originally produced better than 200 barrels, and had declined to the 130 barrels daily yield when deepening was begun. Gravity of the oil is 35.6. Mid-Kansas is treating the crude which is making water.

Marland Agrees to Extend Shut-Down in Mission Area

TULSA.—The production situation took a brighter outlook September 14 when Marland Production Company notified Umpire Ray M. Collins from its Ponca City headquarters that the company would agree to "go along" another 60 days (beginning September 15) without starting drilling operations on its properties in the Mission area three miles west of Bowlegs field in Township 8-6.

Marland's new position on the development of this area, which today ranks among Oklahoma's highest potential producing spots in sight, followed three days of diligent working on the part of the umpire, conservation committee and Mission area operators, and means withholding a drilling campaign involving the drilling of a minimum of 60 and a maximum of 100 wells. With eight producers completed and eight dry holes, Mission pool is conceded to have 1000 acres proven up for production, and is estimated to be good for 60,000 barrels daily by December 15 if drilled.

Efforts to extend the Mission field shutdown another 30 days to October 15 were blocked September 12 when acreage holders in the Mission area met with Umpire Collins to find Marland Production Company insisting on having its acreage started under development. The particular "forty" in question was the northwest quarter of the northeast quarter of Section 7-8-6, which is held jointly by Marland Oil Company and Roxana Petroleum Corporation. By contract with Marland, Roxana was forced to drill a well in the northwest corner of the "forty," a location which offset diagonally to the southeast the Gypsy Oil Company's Barkus 1 producer. Protests of Roxana, in which that company termed a drilling campaign now in Mission pool to be an economic sin and a further weakening of the crude market, failed to have its effect until Marland's new decision came Friday afternoon.

The gaining of the 60-day extension for Mission pool is contended by operators to be among the most important victories won for conservation in Oklahoma in some time. It removes this probable hazard from the overproduction danger list until after the close of the year, at which time the crude output is expected to be considerably lessened, with Little River and St. Louis field past their peaks and older Seminole pools down to lower levels in production.

Resolution for 8-5

Operators meeting with Umpire Collins adopted a resolution calling for the shutting in until January 5, 1929, of three producing wells in Township 8-5, west of Mission field, and the making of all wells now drilling in that area or forced by short-term leases to drill within the near future into key wells. If completed as producers they would be shut in until January 5, waiving their discovery rights with the understanding that no offsets would be started until that date. The plan also provided that the key wells should be supported with the customary dry-hole allowance from offset acreage holders.

Rush Greenslade, counsel for Gypsy Oil Company, made the above motion, following the Gypsy's strict adherence to proration moves. One of the three producers in Township 8-5 is Gypsy's Bourassa 1, extension well to Maud field opened by Barnsdall Oil Corporation's Dorsey Fife 1, in the northeast of the northwest of Section 14-8-5, Gypsy's Bourassa 1, in the southeast of the northwest of Section 7-8-5, was shut in immediately following completion late in August to remain entirely shut in until February 1, 1929. Barnsdall's Fife 1 has been producing an average of 350 barrels a week for the past seven months, and was reported to have quit flowing after being opened late last week. Pure Oil Company's Lindley 1, in the southeast of the southwest of the southeast of Section 18-8-5, the third Maud producer, has been shut in, except for testing its flow, since completion several weeks ago.

About five wells were drilling or preparing to drill in the Maud territory in order to hold short-term leases, but operators of these locations have expressed themselves in favor of making the tests into key wells.

Dallas, Texas—The Texas Company has placed order with Reeves Brothers Company, tank manufacturers, for the immediate construction of six 120,000 barrel capacity steel tanks to be added to the refinery tank farm at Gates, located near Dallas. These tanks will be used to store crude and also heavy refined products.

New Area Opened Five Miles Southeast of Hendrick Field

Structural conditions indicate producer on O'Brien-Stockton ranch is similar to wells in Hendrick field; flow of five barrels with gas

By H. H. KING
Staff Representative

SAN ANGELO, Texas.—An entirely new producing area for Winkler County became definitely established during the past week when Sid Richardson and associates' wildcat test on the O'Brien-Stockton ranch began flowing by heads at the rate of five barrels per hour with three million cubic feet of gas, from lime at 2948 feet. This producer is located about five miles southeast of the Hendrick field and near the Winkler-Ward County line. A gas separator was being erected early Tuesday, and the lime will be further penetrated with favorable prospects of a good producer, since the well is making its flows at a point that places it only 300 feet in the big lime.

Offset Leases

Richardson et al's wildcat producer on the O'Brien-Stockton Cattle Company ranch is located on a 270-acre lease, and 330 feet from the northeast corner of Section 50, Block "F," G.M.M.B.&A. survey, requiring direct offsets from Gulf Production Company, Barnsdall Oil Company and Marland Production Company. Sid Richardson controls a one-half interest, and Frank Kelsey, Fort Worth operator, owns a one-quarter interest, while White Eagle Oil & Refining Company was given the remaining quarter interest for the use of its rig and casing. Gulf Production Company owns a large block of leases to the east and southeast, and will be the first to drill.

The log of the O'Brien-Stockton wildcat indicates that it is producing from structural conditions somewhat similar to that found in the Hendrick field, except that the well encountered a small thickness of salt at 2035 feet, and brown lime at 2648-50 feet, with a surface elevation of 2722 feet. The top of the lime pay is placed at 2805 feet, and when penetrated 10 feet the well made several small heads of 31.6 degree gravity oil on September 7. A string of five-inch casing was set above this pay. Deeper drilling increased the fluid level slowly, and at 2935 feet the flow of gas increased to about three million cubic feet, with a flow of five barrels of oil per hour at 2952-48 feet Sunday.

The Texas Pipe Line Company has built a four-inch line from its Hendrick field tank car line, and is prepared to run the oil for purchase. This well is included in the Railroad Commission's Winkler County proration plan, and its output will be limited on a similar basis to that applied to producers in the field proper, with no restrictions on drilling. However, a separate proration plan may be applied to the area later on in the event development shows an unexpected growth.

Plugging orders were issued last week on the Roxana Petroleum Corporation & Llano Oil Company's Scarborough 3, located in the Llano pool in North Winkler County and near the New Mexico line. This test was considered a likely threat for big production, owing to its relation to the three other producing wells in this area, but it failed to develop any signs of production that would justify a shot, and was in sulphur water at 3490 feet when abandoned. Texas Pacific Coal & Oil Company's Lum Daugherty 1, which also drilled through the supposed producing horizon into sulphur water at 3240-43 feet, has plugged back to 3200 feet for a shot. This latter test is less than a half mile southwest of the flowing oil and water well on the Daugherty-Leck land.

Individual well production honors were regained by the Mid-Kansas Oil & Gas Company and Transcontinental Oil Company in the Yates field last week when their I. G. Yates 5-D, Section 62, tested 4007 barrels of 30 gravity oil during a 45-minute open flow test through two 6⅝ and two four-inch lines, from regular lime pay at 1230-65 feet. About 100 barrels of oil was lost during this gauge, and it was given credit for a daily flow of 128,573.76 barrels, thus exceeding the recent record established by Gulf Production Company's Yates 13, which gauged 2616.18 barrels in 30 minutes, or at the rate of 125,576 barrels daily. The California Company held the record prior to Gulf, having taken same away from Mid-Kansas-Transcontinental's Yates 2-C, which was considered a big well last November when it flowed 65,400 barrels daily. Better records are expected to be established shortly, since field men have about finished their active drilling campaigns for the time being, and are concentrating efforts on building up a big potential production from present completions

Mining Congress Pans Government's "Profitless Investigation"

WASHINGTON. — "Profitless investigations" of industrial activities by Federal agencies, which put both the government and the industries to great expense and show little in the way of results, are attacked by the American Mining Congress as an evil which should be eliminated for, it is declared, "if any real good has been accomplished by these investigations, it is not as yet apparent to the laymen."

The oil industry has been subjected to a series of investigations by senate committees, by the Federal Trade Commission and by the Federal Oil Conservation Board, it is pointed out by the organization. "No tangible benefits from these investigations can be shown," it is declared. "If anything, the general public is more confused than before concerning the issues involved. Likewise, our statesmen appear to be confused, and certainly do not seem to be better equipped to visualize the oil situation or to evolve a program involving legislation or any other measure of dealing with the question that would improve existing conditions.

"The special senate investigation of the Bureau of Internal Revenue which was headed by Senator Couzens, of Michigan, finally was centered upon the tax returns of the mining industry. The effect of this investigation was to delay the settlement of tax returns for the war tax years from two to five years longer than otherwise would have been the case. Many returns involved large overpayments, and others involved large underpayments of taxes. While this investigation was in progress it was practically impossible to get the personnel of the Bureau of Internal Revenue to take final action upon any case involving a large sum of money, especially if that action was in favor of the taxpayer. Fortunately, this investigation did not leave its imprint upon either the 1926 or 1928 revenue acts. It accomplished no particular good and did no particular harm.

"It has seemed to be the practice of investigators," the statement concludes, "to make public and emphasize most strongly all the unfavorable features developed by their inquiries, leaving the splendid accomplishments of an industry, and the benefits derived by the public from the growth of an industry, undisclosed. Where everything in the nature of criticism is given publicity and everything in an industry's favor is withheld, the public imagination and opinion is influenced against an industry, and, instead of good, only injury can result."

Henshaw Holdings in Wildcat Increased

Fort Worth, Texas—Henshaw Oil Corporation, San Angelo, increased its ownership in the semi-wildcat producer and nearby acreage on the W. R. Settles-Eason land, located in Southern Howard County, West Texas district, through the purchase of the 19/32 interest held by the McGinley-Sigler Company, Fort Worth. The former concern held a 10/32 interest in the well and acreage, and Lee Davis, Fort Worth operator, retains his 3/32 interest. The price paid for the McGinley-Sigler Company's interest was on a basis of $856,000, or approximately $500,000, and was made in cash, according to George A. Henshaw, Jr., president of the Henshaw Oil Corporation, who closed the deal with Wm. Sigler in Fort Worth September 15.

The Settles-Eason semi-wildcat producer was completed as a 1500 barrel flowing well about one month ago after drilling two feet into the pay at 2210 feet, and has since been pinched to about 50 barrels daily, pending arrival of a pipe line connection. It is located on a 138-acre tract in Section 6, Block 32, T-S, and 80 acres in Sections 135 and 158, Block 29, Howard County, all of which is close in acreage, was involved in the deal. The Settles-Eason well is west of the Chalk-Roberts field, and may be on a separate structure, since it carries more gas with the oil and a higher rock pressure. M. C. McClellan is field superintendent in charge of operations for the Henshaw Oil Corporation, and a steady development program has been outlined to place production on each 40-acre unit in order to get full benefit of the proration plan now applied to Howard County deep wells. The partially completed well in the upper deep pay in Section 135 will also be conditioned and placed on production.

Amarillo, Texas.—Skelly Oil Company's Armstrong and Byrd 3, located in eastern Moore County, and on a large block of leases straddling the Moore-Hutchinson County line, swabbed and flowed 1500 barrels on a 24-hour test early this week after a shot of 40 quarts in lime pay at 3178-94 feet. This well has been in process of completion for several weeks, having been plugged back from 3224 feet, and is the largest producer scored in the Panhandle district outside of Gray County in the past year.

Phillips Petroleum Company is rigging up two nearby offsets. Prairie Pipe Line Company has a pipe line serving this new area.

Texas Company Will Build Line From Oklahoma to Chicago

Tulsa.—Further evidence of increased refining and marketing facilities in the Chicago territory is seen in plans of the Texas Pipe Line Company to lay an eight-inch welded line from its Tulsa refinery to Lockport, Illinois, 40 miles southwest of Chicago, where The Texas Company operates a 7200-barrel refinery. For several years this refinery has been running crude delivery from Mid-Continent fields by Prairie Pipe Line Company, and the construction of the new line will cut off the Prairie Pipe Line Company's delivery on completion. Definite plans for beginning construction had not been completed early this week, although the survey is already under way. The line will follow the shortest distance, and will be approximately 600 miles in length It will be served by eight booster stations and will have a capacity of around 15,000 barrels. The Texas Company also reports plans of doubling the refinery's running capacity, thereby taking the full amount of the line's delivery. Such a project means the direct disposal of the line's capacity of Mid-Continent crude, the major portion of which more than likely will be Seminole crude.

Plans for a carrier out of St. Louis field of Pottawatomie County, were also being completed early this week by Texas Pipe Line Company, thus further augmenting this company's present line program. A six-inch welded line is being laid from Section 30-7-5, the Wilcox area of St. Louis field, to the company's station in Section 25-8-6, Bowlegs field, a distance of 13 miles. A small pump station will be built at the St. Louis end of this line.

Houston.—Contract for the construction work on the Texas Pipe Line Company line from West Texas to Port Arthur was let Monday of this week and work will begin immediately. Smith Brothers, general contractors with headquarters in Houston, were the successful bidders and have already started men and materials to the right-of-way. Plans as to the details of construction gangs, etc., have not yet been completed but there will be several gangs working from both ends of the line. Actual ditching will begin by October 1 and the contract calls for the line to be in operation by March 1, 1929.

Youngstown pipe is to be used on the West Texas line. This pipe will be covered with special Texaco coating at the Youngstown factory by Hill, Hubbell and Company. Two W-K-M pipe cleaning machines have been set up at the Youngstown plant and will be used to clean the pipe. Hill, Hubbell and Company have pipe wrapping apparatus at the Youngstown plant also and will do the coating work there.

Gangs are at work on the Corsicana-San Augustine line now being built by the Texas Pipe Line Company and work is also under way on the Electra-Panhandle line. A loop from Dallas to Reagor Springs was completed a short time ago.

Aqua Dulce Gas Field Held as Reserve

Houston.—The Grimm & Morris discovery gas well, Garret 1, near Aqua Dulce, Nueces County, located in the center of a 3600-acre block, has been purchased by the Houston Gulf Gas Company, one of the Moody-Seagraves concerns. The Grimm & Morris well was completed as a large gas producer at 2020 feet a little over a month ago, and opened a new field.

The field is located within 25 miles of the Southern Gas Company pipe line leading to San Antonio, and the Houston Gulf Gas main to Houston; both lines being owned by the Moody-Seagraves interests. The new field at Aqua Dulce will be held as a reserve supply for the company.

Los Angeles.—Employees of the Oil Well Supply Company, together with their families and friends, recently gathered at Brookside Park, Pasadena, California, for the sixth annual picnic of the company; and an elaborate and enjoyable program was carried out. In the forenoon there were races and other athletic contests for girls, boys, women and men; and at 1 p. m. a basket picnic lunch was served. Entertainment for the afternoon included a baseball game and swimming. A. F. Nordquist was chairman of the picnic committee; and he was assisted by the following: F. L. Klock, transportation; H. C. Wiebe, special events; Miss Marie Hollis, entertainment of children; Miss Lucile Carn, lunch supervisor; H. L. Thomas, publicity; and Charles Gardner, A. L. Daniels, and Al Lasken, games

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Fort Worth, Texas.—Gulf Production Company has placed order with the Chicago Bridge and Iron Works for seven 80,000-barrel steel tanks, equipped with breather roofs to be erected immediately on its number 2 tank farm on the west side of the Hendrick field, West Texas district. Gulf Production Company is filling storage in this field at the rate of about 5000 barrels daily, and is selling the balance of its production to Humble Oil & Refining Company. Gulf Production Company has 14 completed eighties on the above tank farm, and 20 tanks of similar size in the field proper, making a total of 41 built and building.

Casper, Wyo.—Michael C. Weisman, Minneapolis operator, who has a production of some one million cubic feet of gas at his wildcat well on North Casper Creek structure, has shut the well in. It is bottomed at 980 feet. A well drilled some years ago by Midwest Refining Company had a showing of about four million feet in the same horizon, which is believed to be the Dakota. A report of the Weisman intentions is to the effect that he plans to drill another gas well which will furnish fuel for the first, and that the first will be a deep test for oil.

The Price of Prosperity in the Petroleum Industry

By JOSEPH E. POGUE

Before annual meeting of the National Petroleum Association, Atlantic City, September 19, 20, 21, 1928

THE price of prosperity in the petroleum industry is the application of sound economic principles to the conduct of the oil business. Have sound economic principles been applied to the conduct of the oil business? In reply, one may ask: Is the oil business on a firm basis of prosperity?

The gasoline manufacturing branch of the petroleum industry will have a prosperous year in 1928. Why? Because the price of gasoline remained depressed for 12 months, the output of gasoline in response to these low prices was curtailed and kept so, and stocks of gasoline were reduced to very low levels. The last phrase may be repeated: *and stocks of gasoline were reduced to very low levels.* Moreover, no one came along and prematurely boosted the price of gasoline. Accordingly the spring of 1928 was entered with gasoline stocks 20 per cent. below estimated normal and with a level of output, taken in conjunction with the limited volume of stocks, inadequate to meet the requirements shaping up ahead. Under such circumstances, gasoline prices *had* to advance. The price movement of gasoline during the first six months of 1928 was a true response to economic conditions, and, in your speaker's opinion, one of the soundest price rises witnessed in the petroleum industry for some time.

Unfortunately, the petroleum refiners of the country, now optimistic, are doing their best to expand their operations to the point where the upward price trend so laboriously established last winter will be reversed. One is reluctantly faced with the apprehension that the refiners are now failing to consider the price demanded for prosperity.

The crude oil producers will not have a prosperous year in 1928. And this will be the case despite the exercise of considerable restraint in holding supply far below the possible output. Why? Because the supply of crude oil was not contracted and kept curtailed sufficiently to reduce the stocks of crude oil on hand to reasonable levels. Moreover, someone came along and prematurely boosted the price of crude. The 10 largest oil companies, controlling the bulk of the crude oil in storage, could bring about a sound crude oil situation by reducing their production and purchases of oil below their respective requirements sufficiently to lower their stocks of crude oil, say 100,000,000 barrels. Are these companies willing to adopt such a drastic policy with its unfavorable immediate, but salutory ultimate, effects? They have given no indication of doing so.

Instead of a policy of once-for-all liquidation of an unsound crude oil situation, the petroleum industry has elected instead to adopt a modified form of rationalization, attempting to hold supply to the requirements of demand, but taking no steps to define "demand" or effect a reduction in stocks. This modified form of rationalization is widely hailed as an important constructive step for the industry; but it may not be amiss to point out the possible dangers in the inexperienced application of new economic forces. No criticism can be directed to the soundness of rationalization as an operating policy for an industry. Rationalization probably constitutes one of the major economic advances of recent years. The dangers inherent in the modified form of rationalization as applied in the petroleum industry are several, the most important of which may be briefly summarized as follows. First, curtailment efforts are concentrated on flush areas, with little emphasis placed upon curbing wildcatting, which creates the risk that new discoveries may keep pace with the growth in consumption, thus perpetuating over-production. Second, no adequate provision has been made for discriminating between crude oil demand and true crude oil requirements or for restraining manufacturing expansion, thus leaving the door wide open for refinery over-production. And third, no plan is included for the substantial reduction of crude oil stocks, a prerequisite to a sound crude oil situation. It may be hoped that these imperfections will not lead to unfavorable results, or better yet, that the technique of rationalization may be improved so as to care for these contingencies; but it can do no harm to emphasize that the application of a new economic tool should be directed with the utmost comprehensiveness and foresight and that economic tools, like swords, are often two-edged.

That the crude oil situation, despite the notable advances made in proration and other forms of production restraint, is even yet handicapped by the application of unsound economics is perhaps best illustrated by the advances in crude oil prices during the summer. The basic function of price is to regulate supply, and when other considerations are permitted to enter into price making, the results are usually unfavorable to the stability of the new prices thus established. It might have been thought that the industry had learned its lesson from the era of inventory speculation and price inflation that characterized the crude oil market during the period 1919-1926.

It is doubtless apparent that the petroleum industry has entered a new phase in its development, in which its operations must be brought into closer conformance with the economic principles which experience had shown to be desirable for the conduct and guidance of other industries. It is not an easy or simple matter to revolutionize the economic policy of a major industrial activity. Yet that is precisely the character of the change now taking place in oil. Willingly or unwillingly, the industry must solve its problems along economic lines. The road to prosperity lies in that direction But it is a difficult road to travel, for the petroleum industry is still burdened with the cumulative results of its past economic mistakes and is not united in purpose. The price of prosperity in the oil industry, as in all other industries, is the employment of sound economic principles in its conduct. Is the petroleum industry prepared to pay this price?

Sedgwick County, Kansas

Tulsa—Bu-Vi-Bar Oil Company, Gypsy Oil Company and Marland Production Company's Wright 1, Sedgwick County discovery producer, north of Wichita, in the southeast corner of the north 60 acres of the southeast quarter of Section 12-26s-1w, produced approximately 1650 barrels daily last week from a formation on which geologists continue to disagree. Production is from the top of sand or sandy lime at 3367 feet.

Bu-Vi-Bar, operating the offset properties of the three owners as it did the discovery well, started two new locations September 6. Lantz 1, in the northeast of the southeast of the southeast of Section 12-26-1w, and Lyons 1, in the southwest of the northwest of the southwest of Section 7-26-1e, are the drilling wells. An interesting semi-wildcat to the south of production, is Allison & Fitzwilliams' Doane 1, in the northeast of the northwest of the northeast of Section 24-26-1w. It was drilling early last week at 450 feet.

Casing Protectors on Drill Pipe

By M. MANNING

Gulf Coast Division Superintendent, Humble Oil & Refining Company

Presented before Texas, Louisiana, Arkansas Division of Development and Production Engineering at Galveston, September 5-6

SEVERAL kinds of casing protectors are on the market at the present time and all of them have the common object of preventing any sliding or frictional contact between the casing and the tool joints, collars, or drill pipe. All of these devices have merit and it is probable that even the poorest one of them would more than pay for itself in the drilling of a single well.

The most commonly used casing protectors in the Gulf Coast country are the ball bearing sub type and the vacuum cup rubber ring type. A new style of rubber ring type protector recently introduced is known as the rubber anti-friction collar. These resemble the vacuum cup casing protectors and may have some advantages, and are designed to prevent them from sliding up and down on the drill pipe. The vacuum cup protectors are slipped on over the tool joint by means of an expanding mandrel and are supposed to grip the pipe by means of vacuum cups inside. Our experience shows that they sometimes have a tendency to slide up and down the drill pipe, however this is not a serious objection.

The Humble Oil & Refining Company has had considerable experience with the rubber ring type of protector and has come to the conclusion that this is as good a device for the purpose as can be obtained at the present time. On the Humble's Simms-Smith lease at Goose Creek three wells were recently drilled without use of casing protectors and then a fourth well was drilled using vacuum cup type protectors on the drill pipe. All four of these wells were of approximately the same depth and the same sizes of casing were used viz: 13⅜" A. P. I. lapweld, 9¼" A. P. I. seamless, and 6⅝" A. P. I. seamless casing. We pulled casing on the first three wells and found it to be so badly cut and worn that nearly all of it had to be junked, also we had to replace sixty drill pipe couplings, and still left several couplings in the string that should have been replaced. On the fourth well we used the rubber type protectors on the drill pipe, after setting 5266 ft. of 9¼" casing, and drilled to 6159 ft. and set 6⅝" casing, which was later pulled, and we again drilled through the 9¼" casing from 5266 to 6029 ft. This 9¼" casing is still in first class condition and there has been no noticeable wear on the tool joints or collars. Without these rubber protectors, there is no doubt that this casing would have collapsed long ago, because it is the same size and material as that used in the other wells.

In a well at Carrizo Springs where we had 4468 ft. of 6¼", 26-lb. casing set we used another type of rubber protector on our drill stem and as there was nothing to prevent them from slipping on the pipe, we would find two or three of the protectors on one joint when coming out of the hole, but as far as protecting the casing and pipe is concerned the results were about the same. We drilled through this 6¼" casing from 4468 ft. to 5004 ft. in a hard sandy shale formation, and in making this 536 ft. of hole we drilled 42 days and made 69½ trips in and out of the hole. The drilling was extra hard; however, when the casing was pulled after the well was abandoned, it showed no wear or bad effect from use. Had not these rubber protectors been used, it would have been necessary to junk this casing as has been the case on other wells where similar conditions existed and where the protectors were not used.

We have also found that these rubber protectors act very much like float collars when running in the hole. On one well where a weight indicator was used, we found that the load going in the hole had been reduced from six to eight tons, and in coming out of the hole the friction was reduced so that the load was reduced as much as two tons. This prolongs the life of the drilling lines, because it reduces the amount of work the lines have to do. Obviously, the rest of the drilling equipment is benefited for the same reason.

Our Shreveport division has used two strings of tools equipped with rubber protectors and their experience has been equally as satisfactory as ours. They drill in through seven-inch, 28-pound casing with 3½" drill pipe, and the formation from 200 feet to 500 feet below the casing in anhydrite. Drilling is very hard and very slow and wear on both the casing and the drill pipe is very great when protectors are not used. On one of their jobs, the drill pipe was equipped with new tool joints prior to putting on the rubber protectors, and the joints carefully examined after the well was completed. There had been no wear whatever and the knurling on the joints apparently had not even been touched. Our Shreveport district also advises that the drillers and drilling foremen report less steam is required for drilling with the protectors on the drill pipe. Our experiences at Goose Creek reveal steam savings which run as high as thirty-five per cent.

To summarize all the benefits to be obtained by using rubber casing protectors would take a long time, however, the principal ones are:

1. Lessens the load both going in and coming out and so saves the drilling line and other equipment.
2. Reduces fuel and steam consumption and thus lowers drilling cost.
3. Saves casing from wear by tool joints and eliminates the hazard of collapsed casing, water breaks, etc.
4. Saves tool joints and collars from wear on casing and minimizes hazards of twist-offs and fishing jobs. Also makes breaking out easier.
5. Makes straighter hole because rings act as guides as well as protectors.

Garland Structure

Casper, Wyo.—It is reported that the Utah Southern Oil Company has a good showing of oil in its wildcat well on the Garland structure, in Big Horn County, Northern Wyoming. The well is called Government 3 and is on 39-56n-97w. Total depth at last report was 3703 feet. This well has had several showings of both oil and gas; the gas flow in the upper horizons has been lubricated and the new gas and oil is coming up through a hole full of mud. The oil is black and about the same in quality as the production from the Embar formation in the Grass Creek, Oregon Basin and Frannie fields.

Increase Runs

Dallas, Texas—Magnolia Pipe Line Company has completed work on laying eight separate loops on its West Texas trunk line system between Midland and De Leon stations, and has increased its crude runs from 25,000 to 32,500 barrels daily. Magnolia added about 85 miles of eight-inch loops on its trunk line system, and also placed a new pumping unit in each of the eight stations.

Magnolia has placed order for three new 80,000 barrel steel tanks to be added to its large tank farm in Winkler County, and southeast of the Hendrick field.

Casper, Wyo.—Prairie Oil & Gas Company has announced its intention of drilling a wildcat well on Little Sheep Mountain, in Big Horn County, on Section 35-56n-95w. Material is being moved to location and the well will be started immediately. This is the first operation by a major company on this structure in Wyoming. Drilling will start in the lime, the Embar being eroded and the Tensleep forming the escarpment. The Amsden will be the first possibly productive horizon to be penetrated by the drill; below the Amsden is the Madison, which is about 1000 feet thick. The main objective is the Deadwood formation, which lies on top of the granite and which is several hundred feet thick.

Cole Field

Laredo, Texas—The Cole Petroleum Company has completed its No. 64 in the Cole field, in Block 3, Section 412, Webb County, for about 100 barrels initial production. Casing is set at 2331 feet and the bottom of the hole is at 2337 feet.

Long Beach Production Climbs To 212,500 Barrels

Deep zone proven productive in Los Cerritos section by 3000 barrel well; rumors of deep campaign in Huntington Beach field

By BRAD MILLS
Staff Representative

LOS ANGELES.—Shattering all previous records since the inauguration of the present drilling campaign, production in the Long Beach field stood at 212,500 barrels at the end of the week, thereby reversing a situation which has pointed first one way and then another for several months. Completion of half a dozen good wells, plus the satisfactory performance of the older producers in the deep sand, turned the tide upward again and made a new peak possible. A few weeks ago the field looked definitely lower and it appeared as if the crest of the wave had passed. The fact that production has suddenly staged another comeback vividly illustrates the folly of attempting to predict the future production of an area which has nearly always fooled the best of them. A long series of mediocre completions, many of which showed large quantities of water, practically convinced the average oil man that the field was tottering. Production dropped steadily for a month, even in the face of an increased number of completions. The average initial production also dropped sharply, a fact which pointed to a lower field total. In making elaborrate graphs depicting a steady, uniform decline, statisticians overlooked the fact that 190 wells were drilling in all parts of the field; and that only a few large completions were needed to send production upward. This very thing did happen, and we have a new peak at Long Beach. The word "peak" is somewhat misleading however, and is not as significant as it sounds. It does mean that the up-and-down antics of this great California field are to continue through the remainder of the year, with the possibility that the area will remain in the critical class through a part of 1929.

By proving that the deep zone is productive in the Los Cerritos sector, the Umpire Petroleum Company has made one of the most important discoveries of the year. The company's No. 41, located near Wardlow Street, flowed at the rate of 3000 barrels when drilled only a few feet below the shutoff in a casing test. The well was killed, but not before it demonstrated that Los Cerritos must be considered as a factor in the present development campaign. The oil was 30.0 gravity and showed only a small cut. Los Cerritos area has long been regarded with fear, due to its partial failure in the zone which originally made the main Long Beach field famous. Los Cerritos extension was discovered in 1925 and developed in that and the following year. At first regarded as a separate structure, further development proved it to be nothing but a continuation of the main field. An almost unprecedented rush followed, but the wells proved to be small and nearly every company came out on the red side of the ledger. The same companies probably will not be reticent in attempting to retrieve their losses by developing the deep zone. The Umpire well has not yet had a full-fledged test, but gave evidence that it was a good producer. Several locations already have been made on the strength of the discovery.

Los Angeles.—George F. Getty's Nordstrom 17, in the Santa Fe Springs field, caught fire Sunday afternoon and was still burning Tuesday. The well was drilling at 5409 feet, and probably tapped the new deep zone, giving a clue as to its depth.

The well is producing about 4000 barrels.

Several derricks were destroyed with loss of about a million and a quarter dollars.

Long Beach Completions

Long Beach completions during the week were:

Hancock Oil Company, Signal 9; initial 2000 barrels; total depth, 6165 feet; gravity, 26.0; cut, 26.8 per cent.

Hancock Oil Company, Signal 10; 1500 barrels; total depth, 6036 feet; gravity 31.3; cut, 3.0 per cent.

McKeon Drilling Company, Fairchild 1; 100 barrels; total depth, 4630 feet; gravity, 29.0; cut, 0.1 per cent

Richfield Oil Company, Anderson 4; 2500 barrels; total depth, 6257 feet; gravity, 31.1; cut, 6.0 per cent.

Richfield Oil Company, U. P. 8, 5600 barrels; total depth, 7300 feet; gravity, 30.3; cut, 0.4 per cent.

Shell Company, Pickler 8; 300 barrels; total depth 7563 feet; gravity 22.1; cut, 35.0 per cent.

Shell Company, Stakemiller 5; 2000 barrels; total depth, 7350 feet; gravity, 27.4; cut, 1.0 per cent.

Texas Company, Moore 5; 1500 barrels; total depth, 7440 feet; gravity, 27.1; cut, 5.0 per cent.

California-Eastern Oil Company, Marine 21; 1400 barrels; total depth, 6688 feet; gravity, 30.5; cut, 1.0 per cent.

The Richfield Oil Company continued its triumphant march, with the completion of two good wells. The company only recently completed the largest well during the present drilling campaign and has increased its production from a few thousand barrels to around 20 per cent of the field total.

The State Company's No. 1, the deepest hole yet drilled in the field, is standing cemented at 8065 feet. The 4¾-inch casing was landed on bottom and cemented through perforations at 7780 feet. A survey of the hole showed it to be crooked, but the company will attempt to make it the deepest producer in California, regardless of its mechanical condition.

Hardly a new development was noted during the week in the Santa Fe Springs field, aside from the interesting depths at which two or three wells are drilling. The drilling program is of importance and its outcome is awaited with interest. New wells are starting every day, with the total number of drilling operations approaching 100. The shot that would start 50 more drilling wells almost overnight would be the completion of one good, legitimate gusher in the Wilshire zone. The Wilshire Oil Company still refuses to make public any information concerning the discovery well, making it necessary to complete an open-and-above board producer to satisfy the operators that they really are seeking something worth while.

Potrero

Associated Oil Company is preparing to test an upper sand encountered in Cypress 3, the fifth test of the Potrero field. The new zone was found between 3250 and 3375 feet, or more than 1000 feet above the formation which furnished the discovery well. On the other hand, Voorhes 1 is drilling below 5300 feet and has not yet found a well-defined oil zone. Pacific-Southwest 1 encountered the regular zone around 4400 feet, but a satisfactory water shutoff has not been effected.

Petroleum Securities Company failed to obtain commerical production in McNally 1, a deep wildcat near the West Coyote field, a test of a promising formation between 5440 and 5500 feet showing water and little oil.

Huntington Beach

Rumors that one or more deep tests will be drilled at once in the Huntington Beach field are being circulated, but no definite announcement has been made concerning such a step. Deep tests already have been drilled in parts of the field, but they are admittedly in the areas which offer the least promise for deep

production. Standard Oil Company drilled to 6000 feet on the Thompson lease, but enthusiasts for deeper development contend that the well was no representative test for several reasons. The Thompson well was located near the edge of the field and a distance from what is ordinarily termed the "high" of the district. Increased production in the Long Beach field and the scramble at Santa Fe Springs have dulled interest in the field and caused the operators to await a more favorable time to test the lower levels. There is little doubt that deep tests will be drilled, but the time and exact locations are questionable. Field production has declined steadily during the past year and will soon touch 50,000 barrels unless checked by unexpected flush production.

The smaller fields of the Los Angeles basin are meeting with little success in their efforts to share the spotlight with the large, critical areas. Athens-Rosecrans, Dominguez, Torrance, Montebello, Richfield and Brea-Olinda are passing through a very dull period, with few tests to enliven a very dull drilling program. Recent completion of a 2100-barrel well in the Brea-Olinda field by the Shell Company was significant, but since similar completions have been effected at irregular intervals in the past, it amounts to little more than just another well. The faulted condition in this sharply-dipping field makes it possible to obtain large production along a narrow strip. Several wells are drilling in the Richfield district, two or three of which would slightly extend the field, if successful. The western part of the field has yielded some large wells, after the upper zones had proved of little importance. The Associated Oil Company failed to make a commercial producer of Wanka 1, a deep test in the Athens-Rosecrans field, the swab bringing a flow of gas, mud and water but very little oil. The well was drilled to 5770 feet and gave ample evidence that it would make a successful well. Barnsdall Oil Company was more successful in the field, having completed O'Dea 9 and Rosecrans 8 with an initial production of 200 barrels and 540 barrels, respectively, from 4195 and 5125 feet.

Rincon

Interest in the Rincon field is again centering around the Richfield Oil Company's Miley-Hobson 1, following the discovery of more than 60 feet of good oil sand between 6440 and 6520 feet. This almost solid body of sand gives the well chance for commercial production, even after it was generally agreed that the failure to encounter such a body above 6300 feet practically eliminated the test. The Miley Oil Company temporarily suspended operations at 6398 feet. Oddly enough, Richfield obtained good showings only a few feet below the point at which Miley stopped drilling. A string of 6⅝-inch casing will be cemented at 6430 feet to test about 80 feet of hole. The oil sand is streaked with shale and an occasional streak of sand which shows little or no cut. Cores show a sufficient body of oil sand for commercial production, however. Discovery of a body of oil sand at such a depth means much to the future of the field and gives the area a chance for a large production below 6000 feet. Pending the outcome of the Richfield's test, no deep drilling is anticipated. Failure of a promising body of oil sand around 4000 feet in this same well leaves a doubtful aspect, although the new deep body is showing more life than the upper layers which failed to produce at a commercial rate. Some geologists believe that the Lloyd zone, so productive in the Ventura field, will be found between 6000 and 7000 feet in the Rincon field but there is no positive way as yet to correllate the only deep test in the field with the large producers in the Ventura district. The structures do not present the same appearance and certainly Rincon can never be as prolific as Ventura. The field is small, at least as far as the upper sands are conecrned. Future development of the deep sand hinges almost entirely upon the outcome of Richfield's test—at least, as far as the immediate development is concerned. A large producer would cause a wave of drilling, while a failure or a very small well would instill a greater fear than already exists after the completion of about two dozen small wells. A streak of gray sand at 6515 feet is far from a favorable omen, but such a thin body probably does not ocntain water enough to affect the outcome. In California fields, gray sand is greatly feared, since it generally contains at least a small percentage of water The chief worry in the upper sands has been layers of this dreaded formation. An open hole test probably will be made below the 6⅝-inch casing. In the event of a large production, the necessary adjustments could be made.

Operators are still feeling their way around in the upper layers of the Rincon field, and a few satisfactory completions have been recorded during the past 10 days at widely varying depths. Chanslor-Canfield Midway Oil Company obtained a production of 900 barrels from Hobson B-3, which was completed at 4030 feet. A fair well at this depth is important and gives the operators another objective in their efforts to develop the field. It has not been a difficult task to find a fairly thick body of oil sand, but completion of a well without a troublesome layer of water sand has been the real goal. Richfield's Hobson-Fee 6 (Pan-American) is still flowing 340 barrels after a 10-day test, making it one of the best producers in the field.

Ventura

Completion of three wells in the Ventura field by the Shell Company gave production a boost and demonstrated clearly that this area will show only a nominal decline during the remainder of the year. Rated as the steadiest field in California, Ventura keeps producing around 50,000 barrels with amazing regularity. Gosnell 26, completed with an initial production of 1900 barrels from 7195 feet, was Shell's best well of the week. Other completions by the company were Gosnell 11 and Edison 26, the former an 800-barrel producer from 7065 feet and the latter a 450-barrel well at 6850 feet. Recent completion of Orton 8 as a 1900-barrel well gives the Petroleum Securities Company an enviable position in the field. This well was completed in what is ordinarily known as the shallow sand found between 5000 and 6000 feet, and is a sharp contrast from the 7000-foot completions on the Orton property, as well as the large producers in all other parts of the field. The well is still flowing 1700 barrels and is showing no water. A large production at this depth revives the interest manifested when the M. K. & T. Oil Company completed Foster 1 only a few hundred feet from the Orton lease and at about the same depth as Petroleum Securities' Orton 8. A faulted condition at first seemed the most satisfactory explanation for the completion of the M. K. & T. well at a depth somewhat shallower than that at which the best wells are finished in the heart of the field. The existence of a separate structure is practically out of the question. It now seems possible that a shallower zone exists near the edge of the field than near the center, although such a condition in an anticlinal field is unusual. At any rate, a good production is being developed at a comparatively shallow depth at the very edge of a supposedly closed structure.

Round Mountain-Mt. Poso

The Round Mountain-Mt. Poso district is still active, with one of the most interesting tests—Lindsay Oil Company's No. 1, Section 6-28-29—idle because of litigation. The Lindsay well actually cut several feet of good oil sand and a test was under way when the shutdown order was served. Successful completion of a well by this company would open up an entirely new field north of Round Mountain and southeast of Mt. Poso. The structure is smaller than the average found in this district. R. S. Lytle, independent operator, encountered several feet of oil sand in his wildcat test on Section 26-27-28, about one and one-fourth miles east of the extreme southern tip of the Mt. Poso field, and is preparing to make a production test at 1420 feet. Following the extension of the field by more than a mile by the General Petroleum Company and Union Oil Company, drilling in the district has shown an increase for almost a year. The southern end of the Mt. Poso field has proved to be very irregular, causing small operators to drill on leases not looked on with favor before the discovery of a large extension. Shell Company's Freeman 1, Section 20-28-29, a test in the Round Mountain field, recently produced 300 barrels on a short test. The well gave a much better account of itself than some of its nearest neighbors.

Midway-Sunset

The Midway-Sunset district experienced a quiet week, with neither shallow nor deep developments showing a material change. The large production in the Los Angeles basin and the recent failure to increase the price of heavy oil are temporarily affecting the situation. Leasing has been active during the summer, several of the major companies having acquired acreage on the strength of discoveries earlier in the year. The Republic Petroleum Company is drilling at 3355

feet in No. 32, Section 8-32-23, originally started as a test of the zone found so productive between 2000 and 3000 feet in the discovery well. Failure of the company to complete the well around 3000 feet has caused some speculation, although the oil sand supposedly was found in place. Chanslor-Canfield Midway Oil Company's sensational No. 4, on Section 7-32-23, which was completed with an initial production of 2500 barrels, is still flowing about 1500 barrels. The Signal Gasoline Syndicate has greatly increased production in No. 1, Section 8-11-23, by deepening the shallow well to 3490 feet. Formerly a very small producer, the well came in flowing about 300 barrels. While the production is not large for some districts, such a performance is considered very important for an area which has been producing for almost a generation. It has been demonstrated that a larger production is possible either by deepening or plugging back in some parts of the Midway-Sunset district. When the immense area of fields are considered, the potential output seems much larger than formerly thought.

Fruitvale

Operators in the Fruitvale field are awaiting with interest the test of A. L. Marsten's No. 1, Section 27-29-27, which, if successful, will extend the field almost a mile southeast of Pacific Eastern's present producers. Drilling stopped at 3802 feet, with about 40 feet of promising oil sand in evidence. Marsten stands better than an even chance for commercial production, according to field geologists. Pacific Eastern's KCL 1, the discovery well which has been designated as a deep test of the field, is drilling at 5800 feet, with the formation running to tough shale. Production below this point would be something new for the Kern River district.

Tracts to be Offered at Osage Sale

PAWHUSKA, Oklahoma. — The thirty-first sale of Osage Indian leases will be held here September 27, at 10 a. m., at which time 19,992 acres will be offered.

At the 30 previous sales of Osage County leases 1,215,844.91 acres have been offered and 793,718.65 acres of this amount were sold, bringing $108,242,556.36. The last sale, held March 28-29, 1928, resulted in 63,440.90 acres being sold for $2,437,300, an average of $38.42 per acre. Low crude prices with the fact that little acreage offered at this last sale had a high potential yield is credited with keeping the total income from bonuses at that low figure.

Acreage to be offered September 27 includes 12,472.15 acres out of the east side of Osage County and 7520 acres out of the west side.

Drilling restrictions and the holding down of certain producing properties which were in force at the March 28-29 sale have been removed through recommendation of the Oklahoma conservation committee because of heavy decrease in Osage production, and the sale comes approved by operators generally. Most of the valuable acreage to be offered has been requested offered by Osage County producers.

The tracts, with location and size, to be offered September 27 are listed as follows:

Tract No.	Description	Acreage
1	nw 19-22-12	160
2	sw 19-22-12	160
3	se 21-22-12	160
4	nw 27-22-12	160
5	sw 27-22-12	160
6	nw 16-23-12	160
7	ne 20-23-12	160
8	nw 21-23-12	160
9	se 18-25-12	160
10	nw 27-21-11	160
11	sw 27-21-11	160
12	se 28-21-11	160
13	ne 31-21-11	160
14	se 31-21-11	160
15	ne 33-21-11	160
16	ne 14-22-11	160
17	ne 25-22-11	160
18	se 1-23-11	160
19	sw 1-23-11	160
20	ne 12-23-11	160
21	Fr. E-½ sw 12-23-11	80
22	sw 22-27-11	160
23	nw 26-27-11	160
24	ne 27-27-11	160
25	se 4-20-10	160
26	ne 9-20-10	160
27	ne 3-21-10	160
28	se 3-21-10	160
29	se 26-21-10	160
30	nw 28-21-10	160
31	ne 29-21-10	160
32	se 29-21-10	160
33	sw 11-23-10	160
34	ne 11-26-10	160
35	se 11-26-10	160
36	nw 12-26-10	160
37	sw 12-26-10	160
38	sw 16-27-10	160
39	se 17-27-10	160
40	se 9-21-9	160
41	nw 35-23-9	160
42	ne 1-26-9	160
43	se 18-26-9	160
44	ne 19-26-9	160
45	nw 20-26-9	160
46	sw 25-27-9	160
47	se 36-27-9	160
48	se 1-21-8	160
49	ne 3-21-8	160
50	nw 3-21-8	160
51	se 3-21-8	160
52	sw 3-21-8	160
53	ne 10-21-8	160
54	Fr. nw 10-21-8	117.40
55	ne 7-22-8	160
56	se 7-22-8	160
57	nw 8-22-8	160
58	nw 32-22-8	160
59	Fr. sw 32-22-8	114.75
60	se 18-23-8	160
61	sw 18-23-8	160
62	ne 8-24-8	160
63	se 8-24-8	160
64	sw 8-24-8	160
65	se 15-24-8	160
66	sw 18-24-8	160
67	nw 19-24-8	160
68	ne 22-24-8	160
69	nw 28-24-8	160
70	sw 36-25-8	160
71	sw 2-26-8	160
72	se 3-26-8	160
73	nw 5-26-8	160
74	ne 6-26-8	160
75	se 6-26-8	160
76	nw 12-26-8	160
77	ne 15-26-8	160
78	se 25-27-8	160
79	ne 36-27-8	160
80	nw 12-23-7	160
81	ne 14-23-7	160
82	nw 14-23-7	160
83	sw 27-23-7	160
84	se 28-23-7	160
85	ne 33-23-7	160
86	ne 13-24-7	160
87	se 13-24-7	160
88	ne 21-24-7	160
89	sw 23-24-7	160
90	ne 25-24-7	160
91	ne 13-25-7	160
92	nw 13-25-7	160
92	ne 12-26-7	160
94	nw 12-26-7	160
95	se 20-26-7	160
96	sw 20-26-7	160
97	ne 23-26-7	160
98	ne 8-28-7	160
99	se 8-28-7	160
100	nw 9-28-7	160
101	sw 9-28-7	160
102	nw 3-25-6	160
103	ne 4-25-6	160
104	ne 33-25-6	160
105	nw 33-25-6	160
106	se 10-26-6	160
107	nw 14-26-6	160
108	sw 14-26-6	160
109	se 15-26-6	160
110	ne 27-26-6	160
111	se 33-26-6	160
112	sw 34-26-6	160
113	ne 29-29-6	160
114	nw 29-29-6	160
115	se 13-25-5	160
116	sw 13-24-5	160
117	ne 11-26-5	160
118	nw 11-26-5	160
119	se 11-26-5	160
120	sw 11-26-5	160
121	se 12-26-5	160
122	sw 12-26-5	160
123	ne 20-25-3	160
124	nw 20-25-3	160
125	ne 20-25-3	160
126	sw 20-25-3	160
	TOTAL ACREAGE	19,992.15
	EAST SIDE	12,472.15
	West Side	7,520.00

Engineering Report of Texhoma-Gose Oil Pool, Texas

AN engineering study of the Texhoma-Gose oil pool, in Archer County, Texas, with special reference to methods of increasing recovery of oil, has just been issued by the United States Bureau of Mines, Department of Commerce, in cooperation with the North Texas Geological Society.

During the past four years Archer County has risen from a position of relatively little importance in the oil industry of Texas to be one of the important shallow producing areas of the state. The Texhoma-Gose pool was the first field of size and importance to be developed in Archer County. This pool was selected for study by the Bureau of Mines because of its age and the completeness and accessibility of the well logs and production records. The investigation was undertaken to obtain a better knowledge of subsurface conditions and of the factors influencing and controlling production; and to ascertain what remedial measures or stimulative methods offered the most promise or the best chances for increasing recovery in this and similar fields.

The Texhoma-Gose field is about five miles southwest of the town of Holliday in the north-central part of Archer County. The discovery well, on the S. M. Gose tract, was completed March 10, 1921, as a 250-barrel producer from a sand logged at 1599 to 1604 feet.

All the oil produced in the Texhoma-Gose field to September, 1927, had come from pay zones lying in the Cisco formation. The Cisco group, which is the youngest Pennsylvanian of northern Texas, consists of alternating beds of sandstone, shale, and limestone. The chief pay sand developed in the Texhoma-Gose pool is the Gose sand, which lies 1300 to 1400 feet below the top of the Cisco group. It is found at depths from 1580 to 1620 feet below the surface throughout the pool. Surface elevations in the proved area of the field vary from 1034 to 1080 feet above sea level.

Mixed Base

The oil produced in the Texhoma-Gose pool has a mixed paraffin and asphalt base, and is typical of the Mid-Continent district. Its color is green. The gravity is uniform throughout the field, averaging 39 to 40 degrees A. P. I. The gasoline yield is 36 to 43 per cent by volume.

Development costs in the Texhoma-Gose field are low because of the easy drilling conditions and the comparatively shallow depths. This fact and the possibility of obtaining good initial production have resulted in extensive operations in Archer County by independent companies and persons.

Generally the wells in the Texhoma-Gose pool were drilled by contract, the operator furnishing the derrick, slush pit, fuel, water, and casing. The contract price varied from $3 to $3.50 per foot, and from $75 to $100 a day for any additional time the rig was used to complete or abandon the well.

Initial well productions varied from 10 to 800 barrels per day, with an average for the field of about 125 barrels. Three wells were swabbed at completion and produced 400 to 800 barrels daily. Water quickly appeared in these wells as a result of swabbing; accordingly the practice was discontinued, and subsequent wells were put to pumping immediately upon completion.

Since most of the wells are pumped by central powers, lifting costs for the field are relatively low. Figures obtained from several operators ranged from 24 to 27 cents per barrel of oil, with an average of 25 cents.

In a field like the Texhoma-Gose, where edge water and water in the base of the producing sand are encountered, it is essential that the water conditions be studied when water first appears. All available means must be taken to prevent the rapid migration of the water through open sections of the sand and the trapping of oil in parts of the reservoir.

Water Control

Some of the major problems of water control and their relation to increasing the recovery from the sands were encountered in the Texhoma-Gose field. A discussion of the important engineering problems that were studied with special reference to methods of increasing the recovery of oil from this field is given in the Bureau of Mines' report.

A number of methods are available that offer possibilities for increasing the recovery and reducing the operating costs of wells and leases in the field. Several of these have been tried with fair success, and it is to be expected that additional work of this character will be done in the future. The methods listed below, because of their success in the Texhoma-Gose and other fields, are considered as of possible use, and are discussed in the report.

Reduction of water production.

(a) Bottom-hole plugging.

(b) Correcting faulty shut-offs and adjustment of depth of water strings.

Shooting to increase production.

Underreaming, cleaning out, and deepening.

Washing wells with reagent or hot oil.

Increase in size of pumping equipment.

Restoration of pressure to pay sand.

The Bureau of Mines' report, prepared by Chase E. Sutton, Carol J. Wakenhut, and H. B. Hill, contains an historical sketch of the development of the Texhoma-Gose field; data regarding the characteristics of the oil; an outline of the operating methods employed, cost data; estimates of original oil content and recovery; and detailed descriptions of various methods employed in the control of encroaching waters and for increasing the percentage of oil recovery.

Copies of the report may be obtained from the North Texas Geological Society, U. B. Hughes, Secretary, City National Bank Building, Wichita Falls, Texas, at a price of fifty cents.

Oregon Basin

Cody, Wyo.—Field work in Oregon Basin has been of a routine nature for the last week with no new completions reported. The Texas Company's refinery is under way and making good progress at its location near the Cody railway station. The first unit will have a charging capacity of 3000 barrels, which may be increased to 10,000 barrels later if conditions warrant. Concrete foundations are in, framework for the buildings is ready for erection, and it is expected that the plant will be in operation by the first of the year.

Empire Line Handling Crude for Marland

Tulsa.—Empire Pipe Line Company has contracted to move between 5000 and 6000 barrels of Seminole crude daily to Ponca City for delivery to Marland Refining Companies, deliveries beginning about the middle of September. Marland is buying this crude from Independent Oil & Gas Company.

Empire Pipe Line Company is increasing its gathering line facilities in Greenwood County, Kansas. Construction of a pump station in Section 12-22-11 is under way, and a number of small lines are being extended to leases in that vicinity. Empire Gas & Fuel Company's own production from the Madison area will also be gathered through this system.

During August Empire Pipe Line Company's total receipts amounted to 965,659 barrels, or 31,150 barrels daily, as compared with deliveries of 1,129,915 barrels, or 36,448 barrels daily. Stocks on hand August 31 totaled 3,654,318 barrels of crude.

The company is moving an average of 25,000 barrels of gas oil daily from Cushing to its refinery at Ponca City, running the gas oil consignments intermittently with crude shipments through its lines.

Sun Water Shipments

Beaumont, Texas — Coastwise water shipments of the Sun Oil Company from its Gulf Coast crude oil terminals at Sun on the Neches River and Sabine Pass near the entrance to the Gulf of Mexico amounted to 849,361 barrels in August.

Developments in Gulf Coast Fields

Good Well in New Sand at Kelso Bayou

Houston.—The Calcasieu Oil Company early this week completed Watkins 9 in the Kelso Bayou (East Hackberry) field, Cameron Parish, Louisiana, in a new sand; and indications are that it will be one of the best wells of the field. During the first 24 hours it produced 1535 barrels of pipe line oil, the production coming from nine feet of sand at a total depth of 4075 feet. The oil tests 23.8 gravity.

This well was originally completed as a producer at 3935 feet, but proved a disappointment and was deepened. Judging from other nearby tests, it was believed that the test might hit the salt; and so the well came in somewhat as a surprise.

Its location is adjacent to Kelso Bayou, which runs through the field, and west of the highway which crosses the bayou.

Through completion of this well, the daily production of the Calcasieu Oil Company in the field is around 3200 barrels. That of the Yount-Lee Oil Company in the bed of the bayou is around 1300 barrels, making a total of 4500 barrels daily for the field.

Markham

Houston.—Rycade Oil Corporation was drilling around 900 feet early this week in Hudson-Humble 3 at Markham, Matagorda County. This test offsets Hudson-Humble 2, which was completed about a month ago as an extension in the southeast part of the field, three-quarters of a mile outside the former limits of production. The extension well came in flowing 800 barrels a day, but at present it is pumping around 100 barrels a day. The Rycade Oil Corporation and Humble Oil & Refining Company, on a 50-50 basis hold practically all land between the new and the older production of the field.

Starting Two New Tests at Raccoon Bend

Houston.—Humble Oil & Refining Company is rigging up for two new tests at Raccoon Bend, Austin County, and is drilling below 700 feet in another; and the Humble Pipe Line Company has started laying an eight-inch line which will connect the field with Humble's main line leading through Harris County.

Humble Oil & Refining Company's Grawunder B-1, which is now rigging up, is 850 feet east of Gotosky 2, original deep well of the field. Urban 2, also now rigging up, is about on a line between Gotosky 2 and Bracey 1, a deep producer located over a mile northeast of the discovery deep well. Urban 2 is about 4000 feet from Gotosky 2 and about 2000 feet from Bracey 1. Humble Oil & Refining Company's Kearns 1, which is an extreme northerly test, being 2000 feet northwest of Bracey 1, is drilling sandy shale and lime at 775 feet.

With production partially pinched, the three deep wells of the Raccoon Bend field early this week were making around 1275 barrels of fluid a day, including 1135 barrels net oil, the water coming from Gotosky 2, discovery deep well, now about eight months old.

Humble Abandons Two Tests in Liberty County

Houston.—Humble Oil & Refining Company has abandoned two tests in Liberty County: at Moss Bluff and at South Dayton. The one at Moss Bluff was the Sterling 2, abandoned at 2010 feet. Location has been made for Sterling 3 at a point 100 feet east of No. 2. Moss Bluff is one of the Gulf Coast domes outlined geophysically; and although the existence of the dome has been proved through the drilling of several tests, no production has yet been obtained there.

At South Dayton, which is really on one edge of the South Liberty dome, Humble abandoned Welder 8 at 3709 feet; and has made location for Welder 9. Several producers have been completed in the South Dayton field by Humble Oil & Refining Company and by the Gulf Production Company; but the field so far has proved a disappointment because of excessive salt water intrusion.

Pierce Junction Extended

Houston—The edge of the productive territory at Pierce Junction, Harris County, was extended about 300 feet to the north when Abercrombie & Harrison on Monday of this week completed Ritter 2 for about 450 barrels initial production. The oil is from 18 feet of sand at a total depth of 4260 feet. The well is about 70 feet north of the railroad which cuts along the edge of the field. It is on the north flank of the dome, which at this point is somewhat irregular. Abercrombie recently drilled a dry hole at a point about 400 feet east of Ritter 2.

Houston.—"Texaco No. 2," a new airplane has been ordered by The Texas Company and is to be delivered in Houston this week. This ship, a Lockheed-Vega with Wright whirlwind motor, is to be used by B. E. Hull, general superintendent of The Texas Pipe Line Company.

The pilot for the new plane is Matt A. Nieminen, formerly with the Mexican Aviation Company of Tampico. He served as pilot for that organization for six years and was a pilot on Alaskan mail routes for two years.

Mr. Hull is to use the airplane in his journeys in the interest of The Texas Pipe Line Company.

Roxana Running Two Rigs at Black Bayou

Houston.—Roxana Petroleum Corporation now has two rigs running on Black Bayou dome, Cameron Parish, Louisiana; and late last week was drilling at 320 feet in gumbo in Watkins 3, while Watkins 4 was in the same formation at 420 feet.

This is one of the numerous Gulf Coast salt domes outlined through geophysical work, and is controlled entirely by the Roxana Petroleum Corporation. That company has already drilled two tests there Watkins 1, the first test, was abandoned in salt at 1700 feet after penetrating a thick cap rock; and Watkins 2 was abandoned at 2300 feet.

The dome is located several miles west of the old Hackberry dome, which in turn is slightly west of the Kelso Bayou dome, where the Calcasieu Oil Company and the Yount-Lee Oil Company have developed considerable oil production.

Location of Watkins 3 is 2286 feet west and 1273 feet south of the northeast corner of Section 7-12s-12w; and location of Watkins 4 is 800 feet south and 1565 feet east of the northwest corner of Section 8-12s-12w.

Houston.—Rycade Oil Corporation is drilling a test in the new producing area of the Albercas field, Webb County, which was discovered recently through completion of the Sun Oil Company's Yeager-Strohman B-2 as an unusually good well. This well of the Rycade is its Yeager-Strohman R-1, located about 600 feet south of the new Sun well. It is in Share 5, Las Animas grant. Early this week the test was down to 775 feet. Sun Oil Company's Yeager-Strohman B-2 is flowing about 800 barrels of oil a day.

Allen Dome Producing 40 Barrels Daily

Houston.—Roxana Petroleum Corporation's field at Allen Dome, Brazoria County, has an average daily production now of about 40 barrels from two wells. Randon 1, most recently completed well there, is flowing through a five-eighths-inch choke, making around 35 barrels fluid, five barrels sediment and water and 30 barrels net oil. Allen Bernard 1 is producing about 10 barrels a day on the beam.

Allen dome is one of the geophysically discovered fields, and is one of the deepest fields of the Gulf Coast. Allen Bernard 1 is 5337 feet deep; and Randon 1 is producing from a total depth of 5584 feet, but it also produced a little oil from 4942 feet. Allen 4, which is not now on the list of producers, found oil in small quantities at 4913 and at 5109 feet.

During the past week Roxana Petroleum Corporation made location for a new test on the dome, Reese 3; this test will be

near the Bernard River and on the north side of the dome.

In addition, the company has two drilling tests in the field. Poole A-2 is drilling sand and shale at 5100 feet, and Allen 5 is in shale at 375 feet.

Yount-Lee to Have Big Tank Farm at Beaumont

Beaumont, Texas.—Yount-Lee Oil Company, which discovered the deep pay in the Spindle Top field, and the largest independent producing concern in the Gulf Coast district for the past several years, placed an order last week with Reeves Brothers Company for the construction of 30 55,000-barrel steel tanks to be erected on the company's tank farm adjacent to the Spindle Top field. This concern placed an order late in June for 26 fifty-fives and four eighties, and construction work is well under way. The eighties were built at the tanker loading terminal on the Neches River. Prior to placing of the above two tank orders, aggregating 60 tanks, the Yount-Lee Oil Company had four fifty-fives at the dock and 44 fifty-fives on the field tank farm in service.

When the present tank building program is completed the company will have 104 fifty-fives and four eighties, or approximately six million barrels of facilities.

Exposition Officials Arrange for Comfort of Visitors

TULSA—Parking space has been provided for all visitors at the International Petroleum Exposition, to be held here October 20 to 29. The exposition management has taken the parking problem as one of the considerations and the result is the provision of emple space at no cost to visitors.

South of the exposition grounds on East Twenty-first Street, 160 acres have been leased as a parking space. It will be in charge of a corps of officers, who will organize the plot in such a manner that automobiles may be entered with dispatch and easily found upon leaving.

This provision of parking space is one of the several actions taken for the comfort and convenience of visitors for the Fifth International Petroleum Exposition and Congress. The management this year has based its plans on an expected total attendance of 200,000 visitors. The plant and other facilities are capable of handling a peak attendance of 50,000 in one day.

The parking space for visitors is not connected with a similar provision for exhibitors and exposition officials. Separate ground has been set apart for exhibitors. This space is 90 by 700 feet. It has been covered with a five-inch layer of over size gravel, topped with a finer gravel and then a preparation to prevent dust.

Another provision for the convenience of visitors will be the four information booths over the city. One of these will be at the Mayo hotel, one at the Tulsa hotel, one at the downtown headquarters for the exposition and one on the grounds. At each place there will be facilities for the validation of railroad tickets and for the registration of visitors.

Each visitor will be urged to register on reaching Tulsa. The list of registrants will be available at each exposition office as an aid in locating persons and in providing a means for families and business of associates to get messages and mail delivered.

The administration building on the exposition grounds will house offices of the Western Union and the Postal Telegraph companies, the Southwestern Bell Telephone Company and a branch of the Tulsa post office.

Each building will have a directory of exhibitors. Names and booth numbers will be so displayed that visitors can determine on entering any building what concerns have equipment for inspection.

The outside exhibit space at the exposition grounds is now ready for space holders to begin the installation of equipment. This was put in condition first, since the equipment for outside display is of the type that requires the most labor for installation. The buildings will be ready for exhibitors October 1.

Boggy Creek Tests Active; One Abandoned, One Started

Houston.—Activity of the Humble Oil & Refining Company in the Boggy Creek field, Anderson-Cherokee Counties, East Texas, during the past week included the abandonment of one test and the making of a new location, in addition to continued progress on several tests. The abandonment test was the Hall 1, total depth of which was 3625 feet. It is in Anderson County, about two miles north of the producers on the Jones, Smith, Holloway, Roberts, and Mandelstam lands, the southern and most prolific part of the field at present. The new location is the Guaranty State Bank 1, about 1000 feet east of the abandoned test, Hall 1.

Still farther east of the Hall 1, across the Neches River in Cherokee County, Humble is rigging up Weinberg Brothers 2, No. 1 on that lease having been recently abandoned at 3175 feet.

The most northerly production of the field is on the Elliott-Clark lease, on which the discovery well of the area was drilled. That lease is in Cherokee County, about one mile northeast of the Jones, Smith, Holloway and Mandelstam production.

The first part of this week the daily production of the Boggy Creek field was averaging around 1700 barrels from five wells. The Peter Holloway 1, flowing through a three-sixteenths-inch choke, was making around 250 barrels a day, four per cent b. s. and water; and Lizzie Smith 1, on the same size choke, was flowing 180 barrels. The Holloway 1 has 425 pounds pressure, and the Lizzie Smith 1 has 220 pounds; and the oil from each well registers 80 degrees temperature. Mandelstam 2, one of the older wells of the field, is making around 300 barrels net oil daily, with about 75 per cent of the fluid water and sediment. The T. H. Jones, Sr., No. 2, flowing through a three-eighths-inch choke, and registering 1100 pounds pressure and 86 degrees temperature, is producing 850 barrels of oil per day. The Elliott-Clark producer is yielding around 110 barrels daily.

In the vicinity of the producers in the south end of the field, Humble Oil & Refining Company has a location for Lizzie Smith 2; is drilling limy shale in its Roberts 1 at 2330 feet; has set casing at 2740 feet in Mandelstam 3; and is rigging up to deepen T. H. Jones, Jr. No. 2.

The Boggy Creek field is near Jacksonville and about five miles northeast of the town of Neches. Humble Oil & Refining Company controls all acreage within a wide radius from the present production, with the Rio Bravo Oil Company owning some interest in a part of it. The field's output is being taken care of now with steel storage. The area is advantageously located for making tank car shipments, being about five miles from one railroad and seven miles from another; but no plans have yet been announced for building a loading rack on either of those roads and laying a pipe line from the field.

Benedum Trees Buys Oil Well at Refugio

Houston.—The Texas Gas Company, which has its headquarters in Houston, has sold its Clint Heard 1, discovery oil well of the Refugio gas field, together with another drilling well and the 100-acre lease on which the wells are located; the purchaser being Benedum Trees. The total consideration was $300,000, part cash and part to be paid from oil.

The Clint Heard tract is in the south end of the Refugio field. The Texas Gas Company discovery oil well was completed the latter part of June, 1928; it is in the northeast corner of the 100-acre tract. Obtaining the first oil that had been found in the field in commercial quantity, it came in making 700 barrels from 3702 feet; having been drilled deeper from 2400 feet, where it was a gas producer. The production is regular Grade "A" coastal crude.

The Texas Gas Company still retains about 700 acres in the district. Officers of that company, which was organized about May 1, 1928, include R. A. Wolfe, president and general manager, and R. H. Hawn, secretary and treasurer; both of whom are Houston men.

Champagnolle Interest Shifts To Western Edge

SHREVEPORT, Louisiana. — With the peak of drilling in the main area of Champagnolle apparently passed, interest in that field is being devoted to edge wells. The last week saw interest revived in the western edge of the district in Section 16-17-14 and also in the northwest corner of the northeastern end of the field in Section 3-17-14.

Aside from the Champagnolle interest in the North Louisiana-South Arkansas-East Texas territory chiefly centered in the testing of The Texas Company's Meyers 1 in Section 15-22-7, Morehouse Parish, a wildcat that at one time held out promise of being a producer when a rich oil sand core was taken, the hopes being subsequently dashed when the well tested salt water.

That was six weeks ago and now after cement has been set in the hole the well is being drilled in again at 2939 feet with hope again revived although not at the pitch formerly reached.

Meanwhile in the Richland Parish gas field, W. C. Feazel's Pardue 1, in Section 6-16-5e, which cratered over a week ago, has continued to be obstreperous and cratering has continued with the loss of the derrick in the crater around the hole. The well's action is similar to that of the Thomason C-1 nearby which acted in almost an identical manner several months ago necessitating the drilling of two off-set relief wells.

Champagnolle Wells

In Champagnolle the northwestern edge of the northeast tip of the field adjacent to the discovery well of the area which was in Section 1-17-14, during the week saw the addition of the two best producers of the district, both being on the Slade lease in Section 3-17-14. The Oil Well Corporation's Slade 3 was the best well of the pair, being completed at 3246 feet flowing 100 barrels. Marr and Hoosier's Slade 1 in the same section was completed flowing 300 barrels of fluid, 80 per cent. salt water, from 3232 feet.

Shifting to the western edge of the main field, located in Sections 10 and 11-17-14, two edge wells were added as gassers in Section 16-17-14. Lion Oil and Refining Company's Sinclair 3 was completed at 2840 feet and gauged at 15,000,000 feet while Sun Company's Schmidt 1 was brought in at 2783 feet and gauged at the same amount of gas. The latter well also has a spray of oil while the former is dry gas.

The Sun Company has three wells in this section on the Schmidt lease, Nos. 1 and 2, the latter still being in the process of completion with both oil and salt water reported.

Besides the two producers added in Section 3-17-14, the Champagnolle field also recorded E. C. Johnson, Trustee's, E. F. Gregory 1, in Section 10-17-14, as a one million foot gasser with five barrels of oil, the yield coming through tubing and packer with total depth 3263 feet.

The three producers and the two gassers comprised the total of completions during the week for Champagnolle, no tests there being recorded as failures, which is quite a contrast to the week before when aside from one big gasser the entire completions list was composed of failures.

The three producers in Champagnolle comprised the bulk of the week's initial yield from five wells in the tri-state territory. Besides them the Little Fay Oil Company completed Primm 1 in Section 24-15-16 as a 25 barrel pumper at 2037 feet. Humble Oil & Refining Company also added another producer on its Grove lease in Nevada County, Arkansas, when it completed Grove C-4 in Section 1-14-21 at 1132 feet as a 40 barrel pumper.

Louisiana Gas Wells

Louisiana did not add any producers during the week but did account for six gas wells which in addition to the two in Champagnolle, made eight for the territory. Among the Louisiana gas wells was Louisiana Oil Refining Corporation's Crichton 2, in Section 21-21-10, Webster Parish, Cotton Valley field, completed at 4701 feet in the Trinity sand and gauged at a half million cubic feet.

The eastern edge of the Sarepta gas area in Webster Parish also accounted for a two million foot gasser in Virgil Helm's Mitchell 1 in Section 32-23-9 completed at 2705 feet. This portion of the field where at least one well has shown oil at around the 2700 foot level and several small gassers have been added, is only five miles west of the western edge of the old Haynesville oil field which reaches over the line of Webster from Claiborne Parish.

A three million foot gasser in the shallow sand of the Waskom gas area in Caddo Parish and Harrison County, Texas, was added when Magnolia Petroleum Company completed J. M. Bryson 2 in Section 8-17-16 at 972 feet. J. S. Harkness' Bowles 4 in 18-20-5e, Morehouse Parish (Monroe) was completed at 2197 feet as a four and a half million foot gasser, while in Union Parish (Monroe) the Natural Gas and Products Company added its G. W. Hale 1 in Section 5-21-4e at 2167 feet, as a five and a half million foot gasser.

The largest gasser added in this territory during the week was the Northern Louisiana Gas Company's McCoy B-2 in Section 17-16-6e, Richland Parish, which was completed at 2436 feet and gauged 24 million feet daily. This was one of the wells figuring in the recent merger of the S. S. Hunter interests headed by S. D. Hunter with the Northern Louisiana Gas Company.

An effort to link the northwest edge of the Richland Gas field with the southeastern edge of the Morehouse Parish gas producing area ended in disaster during the week when Gulf Refining Company's Chess Wymond 1-A in Section 7-18-16 was abandoned at 3445 feet. The well was just over the line in Morehouse Parish. Another Morehouse wildcat that was abandoned during the week was The Texas Company's Huff 1 in Section 36-23-7, which had been drilled to 3347 feet.

Two deep wildcats in Sabine Parish also entered the failure column during the week when R. L. Gay's Mansfield Hardwood Lumber Company 1 in Section 15-7-14 was abandoned at 3611 feet and Zwolle Oil and Gas Company's Bowman-Hicks 7 in Section 14-7-14w tested salt water at 4008 feet.

Carter and Wingfield, who are drilling half a dozen wildcat tests in Sections 6 and 7-23-1e, Union Parish, received their first set-back in the series of tests when their Security-Trust 1 in Section 6-23-1e was a failure at 2436 feet.

In the Antrim wildcat area of Bossier Parish, Bruten and associates abandoned Allbritton & Douglass 1 in Section 1-22-14 at 2874 feet, while in Caddo Parish Tubbs and associates' Hines 1, a wildcat in Section 16-14-16, was abandoned at 2730 feet. In DeSoto Parish (Naborton district) the Louisiana Public Utilities Company abandoned Clanton 1 in Section 14-12-12 at 1055 feet.

Eleven new locations, ten in North Louisiana and one in Arkansas, were announced during the week. The only new test for Arkansas is O. W. Estes' Rowland 6 in the southwest of the northwest of Section 14-17-14 which now has a derrick pattern laid.

New Locations

Probably the most interesting location announced during the week was that of Warren and Carruthers who will drill Ramsey 1 1823 feet north and 1823 feet west of the northeast of Section 33-13-16, DeSoto Parish, Logansport district. Several wells were drilled on this lease several years ago by L. V. Ulrey and associates, their Ramsey 3 going to around 5500 feet

before being abandoned. It showed gas at several intermediate depths.

Franklin Parish, another wildcat area, gets a new test in Davis and associates' Moore 1 in Section 12-11-6e. This area is in eastern Louisiana.

The Texas Company's Hamlin 1 in Section 28-10-13, Sabine Parish, which showed considerable gas at 3682 feet, is now being deepened and is drilling at 3759 feet in shale and lime. Plymouth Oil Company's Logan A-2, in Section 23-10-13, which tested 150,000 feet of gas at 4268 feet in the Trinity and is being deepened, is drilling in lime at 4480 feet. These wells are four and six miles west of the producing field in Pleasant Hill, Sabine Parish, which is yielding from the 3200 foot sand.

In Arkansas a number of interesting wildcats continued to hold interest. Marr & Hoosier's List 1 in Section 27-17-15, three miles east of El Dorado, Union County, is reported to be showing an oil sand around 2300 feet and preparations are being made for a test.

H. L. Hunt's Dykes 1 in 21-18-12, Union County, tested salt water through the drill stem from 3199 feet and is being cored at 3206 feet.

The status of E. M. Jones' Stegall B-2 in 10-18-14, Union County, which has 100 feet of oil and 25 feet of salt water in the hole remains unchanged. Operators are awaiting orders at a depth of 2264 feet. Imperial Oil and Gas Company is arranging to mill out of casing at 2100 feet, total depth being 3387 feet.

There are 42 wells now producing oil in the Champagnolle field, with the average daily yield being a little better than 200 barrels daily. All of the oil is being run by four companies, the Lion Oil and Refining Company, Root Refineries, Inc., Magnolia Petroleum Company, and the Shreveport-El Dorado Pipe Line Company.

West Texas Production

WINKLER COUNTY

	Producing Wells	Daily Average Prod.
Hendrick Field—		
Southern Crude-R. A. Westbrook	48	*23,715
Roxana and The Texas Company	34	*19,310
Roxana Petroleum Corp.	34	*18,860
Gulf Production Company	23	*18,175
Pure Oil Company	28	*12,450
Atlantic & Collett-O'Keefe	12	*12,080
Humble Oil & Refining Company	31	*11,170
Skelly Oil Company	12	*9,565
Atlantic Oil Producing Co.	25	*9,060
Southern Crude- Dixie Oil Co.	27	*7,150
Cranfill & Reynolds, Inc.	8	*5,805
Republic Production Co.	11	*5,610
Independent Oil & Gas Co.,	16	*4,940
Murchison & Cranfill Bros. Oil Co.	8	*4,260
Prairie Oil & Gas Co.,	6	*3,860
Texon Oil & Land Co.	8	*3,730
Marland Production Co.	6	*2,515
The California Company	8	1,690
Magnolia Petroleum Co.	8	1,335
Clint W. Murchison & T. P. Lee et al.	1	*850
Atlantic & Kessler-Logan	1	630
Winkler Oil Prod. Corp.	1	*355
Eastland Oil Company	1	210
Amerada Petroleum Corp.	1	*145
Total	358	177,470

CRANE COUNTY

Church & Fields—		
The Texas Co. (was Landreth)	16	6,885
Simms Oil Co. & Atlantic Oil Prod. Co.	32	5,045
Prairie Oil & Gas Co.	12	4,210
Tidal Oil Co. & Turman-Maxwell	25	4,040
Warner-Quinlan Co. of Texas	27	3,505
Magnolia Petroleum Co.	33	3,295
Humble Oil & Refining Co.	14	2,455
Gulf Production Co.	11	1,395
Independent Oil & Gas Co.	7	1,245
The Texas Company	3	445
Church & Fields et al	3	340
T. P. Coal & Oil Co.	1	55
Stidham & Thrasher	1	5
Total	185	32,920
Gulf-McElroy—		
Gulf Production Co.	63	13,515
Gulf-Waddell—		
Gulf Production Co.	1	5
Marland-Hughes—		
Marland Production Co.	14	425
The Texas Company	9	130
C. C. Duffy et al	1	70
McMan Oil & Gas Co.	2	55
Total	26	670
Totals for Crane County	275	47,110

*Production partially pinched.

REAGAN COUNTY

	Producing Wells	Daily Average Prod.
Big Lake Field—		
Big Lake Oil Company	145	13,640
Texon Oil & Land Co.	79	3,295
Skelly Oil Company et al	1	45
The California Company	1	20
Total	226	17,000

PECOS COUNTY

Yates Field—		
Mid-Kansas-Transcontinental Oil Co.	95	*34,125
The California Company	34	*10,155
Gulf Production Company	29	*9,815
Gulf Prod. Co. (Crockett County)	3	210
Simms Petroleum Company	7	*5,300
McMan O. & G. Co. & Marland Prod. Co.	17	*4,375
Roxana Petroleum Corp.	20	*3,720
McMan Oil & Gas Company	9	*3,435
Humble Oil & Refining Co.	14	*2,675
Marland Production Co.	10	*995
Oil Operators Trust & A. T. Herd	7	750
Mazda Oil Corp. & Savoy Oil Co.	3	*235
Red Bank Oil Company	3	*125
Skelly Oil Company	1	105
Matador Oil Company	2	*...
Phillips Petroleum Co.	1	95
Grayburg Oil Co. & T. T. Word	3	90
Kirby Pet. Co. & Edson Pet. Co.	1	70
Kirby Petroleum Co.	1	45
Cosby Drilling Co.	1	*...
Dixie Oil Co. (Crockett County)	1	10
Total	262	76,330

JONES COUNTY

Snowden & McSweeney	1	1,135
Phillips Petroleum Co.	19	1,105
Robert Oil Corp. & Cosden & Co.	3	505
Hucony Gas Co.-Atkinson-Sandifer	2	480
Roeser-Pendleton-Landreth	1	215
Marland Production Co.	3	210
The Texas Co. & Cosden & Co., Inc.	1	100
Mid-West Exploration Co.	5	60
Hutson-Weaver et al	1	45
Rhodes & Higher	1	50
Roeser-Pendleton & Stebbins	2	20
Total	39	3,930

MISCELLANEOUS

Howard County	179	*23,765
Upton County	285	10,865
Mitchell County	141	3,120
Crockett County	41	2,545
Fisher County	4	930
Loving County	5	315
Runnels County	2	70
Scurry County	5	40
Ector County	2	10
Total	664	41,660
Total for all fields	1824	353,500

Oklahoma Gains Send Production Up During August

Release of Seminole area wells from proration restrictions results in large gains which are reflected in total recovery in United States

By A. R. McTEE
Staff Representative

BOOSTED by important gains in the Seminole area of Oklahoma, the total daily average production of crude for the United States during August was 2,445,600 barrels, an increase of 53,450 barrels as compared with July. The net gain for the entire month was 1,377,950 barrels, with a total of 75,534,600 barrels. The July total amounted to 74,156,650 barrels.

Most of the increase can be accounted for in Oklahoma. About the middle of the month drilling restrictions in the Little River field were removed and production began to increase immediately, resulting in a gain of 1,271,500 barrels for the month against the July output. The St. Louis field in Oklahoma also gained 1,110,400 barrels. A few other minor increases were offset by scattered losses.

The increase in field work was in proportion to the gain in output: A total increase of 196 in completions was shared by Texas, Eastern States, Oklahoma, California and Arkansas. Kansas and Louisiana each showed slight decreases in drilling.

Completion of new producers in the Permian Basin of West Texas with new wells in the Little River district boosted initial production 346,773 barrels. The total initial production of Texas and Oklahoma was 468,000 barrels, but decreases in most of the other states brought the United States total down to 346,773 barrels.

Although the month was comparatively quiet, the price increase which came at the close of July gave sufficient encouragement to the general situation to put a good many idle rigs to work. Winkler and Pecos Counties remained the high spots in Texas.

West Texas

New production added in the upper part of Texas during August was mostly concentrated in the three flush fields in the West Texas district, although the South Vernon district, Wilbarger County, contributed a large amount through operations on the Waggoner Ranch, and the latter district climbed to a new peak of 36,575 barrels daily on August 15.

Continued flood of new production in the Hendrick and Yates fields, West Texas district, during August had no bearing on the general market situation, since both are limited on daily output by proration rules of the Texas Railroad Commission. The production of the Yates field was increased to 72,500 barrels daily on August 20 by order of the Commission in order to permit Gulf Pipe Line Company to resume operating its pipe line connected to the field, thus boosting the output of the field 7500 barrels daily.

Several minor extensions were made to the Hendrick field during August on the north, east and south sides of the structure, but tests drilling beyond the productive limits of the field indicate that it is practically defined on all sides. Water encroachment throughout the field is growing worse, but wells making a high percentage of water continue to flow because of proration enforcement has greatly aided in retaining the "head" on the field. Field work in the Hendrick area is gradually declining. New developments in the Yates field have also dropped to a low level because of most of the 100-acre units having been placed on the producing list. A new production record for the Yates field was made late in August when Gulf Production Company's Yates 13 was given a one-half hour open flow test, resulting in a flow of 2,616.18 barrels, or at rate of 125,576.64 barrels daily.

A production increase in Howard County developed late in August when operators began making potential daily production gauges to apply the Texas Railroad Commission's proration order, which limits the output of the deep pays in the Roberts-Chalk area to 15,000 barrels daily during the first month ending September 25, and 25,000 barrels daily for the following five months. Lack of tankage and pipe lines cause a delay in placing these deep wells on production. The productive limits of this deep pay area became more definitely established by disappointing completions late in August.

The older fields in West Texas, such as Big Lake, Westbrook, Powell-World, McCamey and Church-Fields-McElroy, registered production declines, and experienced comparatively little new development, while no wildcats of importance were brought in.

Central West Texas

The various fields centering around Ranger in the Central West Texas district were benefited by the crude price advance late in July, but little change in the volume of drilling resulted, owing to absence of discovery wells lately, and the amount of attractive undeveloped acreage is somewhat short of the usual supply. A large percentage of failures were recorded in Brown, Coleman, Eastland and Shackelford Counties through the efforts of wildcatters to uncover new areas.

The W. T. Waggoner Estate's ranch lands in the South Vernon district retained the spotlight of interest in North Texas, and more new production was added in the former area than all other sections of the North Texas district combined. Pipe line congestion caused a temporary shutdown of operations on the Waggoner ranch during August, and a drop in production occurred during the last half of the month. However, relief is in sight as Sinclair Pipe Line Company is at work on a second line into the field from its Burkburnett station and tank farm, and has contracted to take oil. Sufficient proven acreage has been established to assure a steady drilling campaign over a long period, with more than one producing horizon on many of the leases.

Minor extensions to old producing fields in Archer and South Wichita County opened the way for a slight gain in field work during August, and operators proceeded to drill up the locations as they became proven. The Loving shallow district in North Young County has been

UNITED STATES PRODUCTION

Following is the gross production of crude oil in the United States for August as compiled by the American Petroleum Institute. There is a slight difference in the totals herewith shown and those compiled showing individual field production, due to the fact that these figures are final, whereas the others are unrevised estimates.

States—	Daily Average	Monthly Total
Oklahoma	656,350	20,346,850
Kansas	102,200	3,168,200
Texas (Outside Gulf Coast)	604,000	18,724,000
Gulf Coast	130,200	4,036,200
North Louisiana	40,200	1,246,200
Arkansas	87,500	2,433,500
Eastern States	113,300	3,512,300
Rocky Mountain	77,700	2,408,700
California	634,150	19,658,650
Total	2,445,600	75,534,600
Last Month	2,392,150	74,156,650

drilled out, and considerable effort has been waged lately in trying to extend the pools, or uncover new areas. This wildcat work exacted a heavy toll of dry holes. Field operations in Cooke, Montague and Jack Counties continues at a low level.

Texas Panhandle

Texas Panhandle operators increased their field work slightly during August on the strength of the crude price advance, as necessary offsets had been held back for the past spring and summer because of existing crude prices being too low to warrant drilling expenses The LeFors field, Central Gray County, became the most active section in the Texas Panhandle towards the close of the month when several unusually large producers proved up new territory, and small tracts held in this area made more offset drilling necessary than usual. The oil in the LeFors field is around 40° gravity, being virtually free of sulphur, and is popular with the major crude buyers.

East Central Texas

The search for new oil producing areas in the East Central Texas fault zone between and beyond the Mexia-Corsicana fields is still underway, with a limited number of tests drilling for the Woodbine sand. Little encouragement has been had from the failures drilled lately, and the operators are pinning their hopes on the Trinity sand, a deep pay, to be the next source of production. C. F. Lytle et al's Thompson 1, located on the west edge of the Mexia field, is making a test of the Trinity, and should reach the critical depth late in September. A nearby junked hole in the top of the Trinity has proven the existence of big gas production and some oil in the formation, and a successful completion by the Lytle test is anticipated.

Southwest Texas and Gulf Coast

Webb County showed most of the activity in the Southwest Texas district. This county reported 13 completions, 10 of which were producers of oil in commercial quantities and two of which were good for 30,250,000 cubic feet of gas. The entire district showed 31 completions, 17 producers, three gas wells, and 11 failures. Initial production amounted to 3445 barrels.

The outstanding event in the Gulf Coast district on the Texas side was discovery of a new prospective area in Matagorda County. Through torsion balance surveys a salt plug was indicated about 12 miles southeast of Bay City. The mass is said to be under about 3000 acres of land in the James B. Dwyer, Daniel McCarthy and Farnham Frye surveys. A peculiarity of the new dome is that it is believed to have two nipples or domes pushed up from the main body, the two domes being about a mile and a half apart, one at the north, the other at the south extremity of the plug. Both domes are part of the same salt mass however

Humble Oil and Refining Company is now testing a supposed dome at Mykawa, in Harris County, outlined a short time ago by the torsion balance.

Besides the domes in Matagorda County and the Mykawa dome in Harris County, two other domes have been reported as discovered recently, both of them in Harris County. One is about eight miles north of Houston near the village of Aldine, and the other is near Deer Park, about 15 miles east of Houston, a short distance from the ship channel.

Routine completions in the gulf coast totaled 68. Of this number 43 were producers giving initial output of 15,156 barbels. Blue Ridge, in Fort Bend County, led in activity with 11 wells nine of which were producers. Initial production of the Blue Ridge field was slightly more than 8000 barrels, more than the combined initial of all other fields in the coast. Total output of the district was 3,282,900 barrels, 2400 barrels less than for July.

In the South Louisiana territory seven of the 27 completions were in the Kelso Bayou or East Hackberry district. Of the 5306 barrels initial production for the whole territory, the Kelso Bayou producers made 4026 barrels. Kelso Bayou is in Cameron Parish. The field made a total of 136,700 barrels of crude during the month and although production was discovered a comparatively short time ago, the district is now the second biggest producer in the Louisiana coast. Vinton produced 136,800 barrels, 100 barrels more than Kelso Bayou.

Rycade Oil Corporation got a second small producer in St. Martin Parish in its Bayou Boullion No. 2. This well made 300 barrels from 3230 feet. Other parishes in which there were completions included Ascension, Jeff Davis, Iberia, La Fourche, and St Mary's. In all of these however, the wells were wildcat failures.

Most of the new work in North Louisiana was in gas areas and the total amount of initial production in new gas wells was 194,000,000 cubic feet. Out of 31 completions there were only eight oil wells, with a total initial yield of 376 barrels.

Arkansas

Of 41 completions in Arkansas, 32 were in the Campagnolle field. That district showed 17 oil producers with an initial output of 7137 barrels, two gas wells yielding 50,000,000 cubic feet, and 13 failures. Total production for the month was 415,000 barrels.

At the beginning of the month the Champagnolle field has eight locations, 12 derricks, two rigs up, 58 wells drilling, and 13 testing. By the end of the month these figures had all been reduced and the field is now practically defined on all but the north and northeast sides.

Total output of Arkansas for August was only 63,100 barrels below the July figures.

(Continued on page 59)

UNITED STATES FIELD STATISTICS

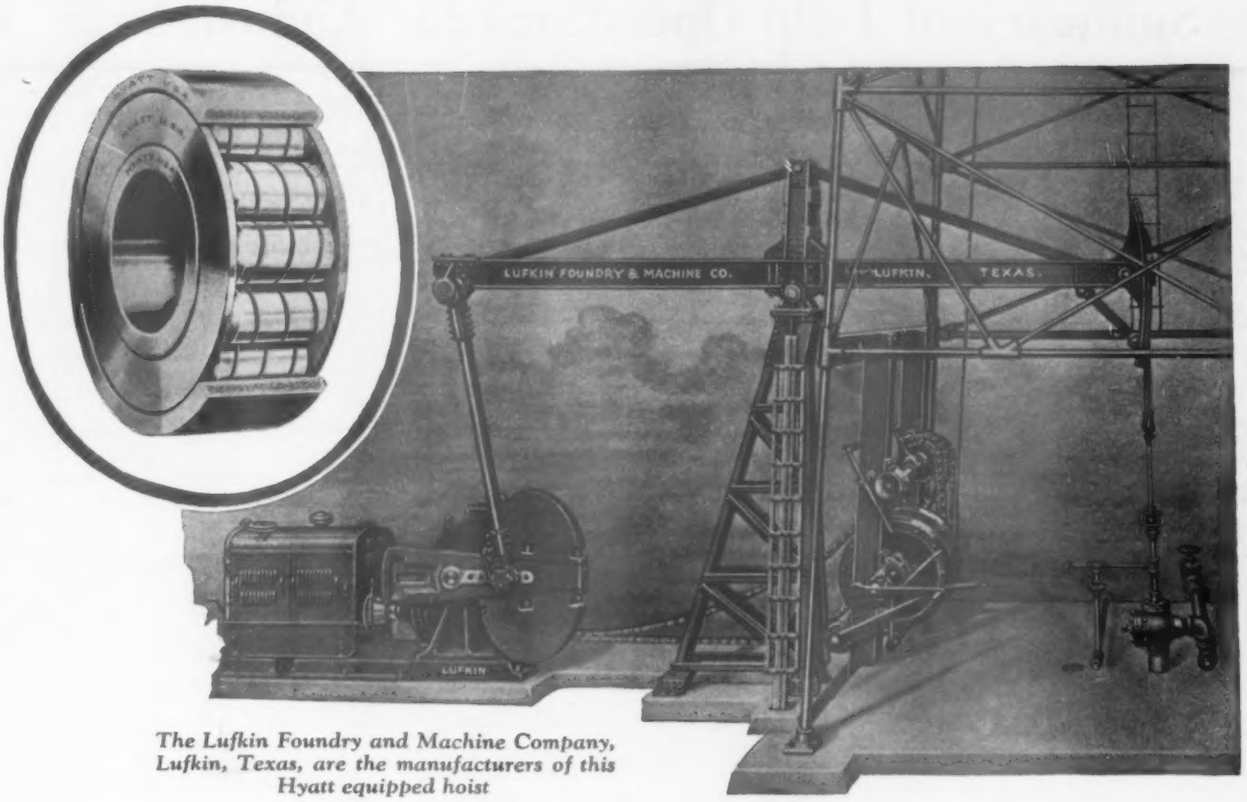
Following are the completions showing producers, gas wells, failures, and initial production of crude by states for the four weeks ending August 25, as compiled by THE OIL WEEKLY:

Arkansas	41	19	2	20	7,367
California	55	50	..	5	47,115
Illinois	9	6	..	3	70
Indiana	25	12	2	11	312
Kansas	73	32	12	29	6,360
Kentucky	115	72	6	37	3,054
Louisiana	58	22	12	24	5,682
Michigan	15	10	3	2	980
Mountain States	...	..	..	..	....
New York	12	11	1	..	42
Ohio	178	74	58	46	4,121
Oklahoma	336	200	31	105	193,587
Pennsylvania	89	72	8	9	342
Tennessee	2	2	..	..	900
Texas	624	369	26	229	699,543
West Virginia	98	23	56	10	267
Total	1,730	974	217	539	969,742
Last Month	1,534	882	189	463	522,969

PAST TWELVE MONTHS

The record for the past twelve months is an interesting study for comparison purposes, the following table giving the field statistics for all States in the Union:

Month—	Completions	Producers	Gas Wells	Failures	Initial Prod.
August, 1927	1,642	982	207	453	439,735
September	1,870	1,092	228	551	380,851
October	1,541	870	225	446	322,603
November	1,651	901	205	545	367,657
December	1,857	1,020	311	256	522,536
January, 1928	1,203	640	179	384	396,150
February	1,376	729	197	450	336,319
March	1,693	884	283	526	555,613
April	1,486	772	216	498	397,825
May	1,495	770	186	539	413,378
June	1,545	895	136	513	457,662
July	1,534	882	189	463	522,969
August	1,730	974	217	539	969,742



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ROLLER BEARINGS

PRODUCT OF GENERAL MOTORS

Summary of Field Operations for August, 1928

EASTERN STATES

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Pennsylvania	89	72	8	9	342
New York	12	11	1	..	42
Ohio	178	74	58	46	4,121
Indiana	25	12	2	11	312
Michigan	15	10	3	2	980
Kentucky	115	72	6	37	3,054
West Virginia	98	23	56	19	267
Illinois	9	6	..	3	70
Tennessee	2	2	..	..	900
Total	543	282	134	127	10,088

PENNSYLVANIA

Bradford	61	55	..	6	281
Greene	9	4	4	1	27
Butler	6	4	..	2	12
Venango	9	6	3	..	15
Center-Middle	4	3	1	..	7
Total	89	72	8	9	342

WEST VIRGINIA

Cabell	6	..	6	..	...
Roane	14	5	8	1	93
Lincoln	5	..	5	..	...
Ritchie	15	5	5	5	110
Calhoun	12	4	6	2	14
Putnam	6	1	4	1	2
Pleasants	5	3	1	1	6
Doddridge	3	..	2	1	...
Harrison	3	..	3	..	...
Marion	2	..	1	1	...
Monongalia	2	1	1	..	5
Marshall	2	..	2	..	...
Wood	4	2	..	2	10
Boone	6	..	6	..	...
Kanawha	2	..	1	1	...
Mingo	1	1	..	..	25
Lewis	4	..	3	1	...
Wetzel	3	..	1	2	...
Braxton	1	..	1	..	...
Wirt	1	1	..	..	2
Gilmer	1	..	..	1	...
Total	98	23	56	19	267

ILLINOIS

Wabash	1	1	..	..	7
Crawford	6	4	..	2	28
Lawrence	2	1	..	1	35
Total	9	6	..	3	70

MICHIGAN

Muskegon	14	10	3	1	980
Ottawa	1	..	..	1	...
Total	15	10	3	2	980

NEW YORK

Allegany	12	11	1	..	42

INDIANA

Gibson	7	2	2	3	105
Sullivan	6	4	..	2	64
Starke	1	..	..	1	...
Spencer	3	3	..	..	45
Adams	1	1	..	..	8
Daviess	3	..	..	3	...
Vigo	2	2	..	..	90
Madison	1	..	..	1	...
Martin	1	..	..	1	...
Total	25	12	2	11	312

OHIO

Southeastern—					
Jefferson	3	3	..	..	20
Noble	8	2	2	4	6
Monroe	4	2	2	..	12
Washington	13	3	6	4	6
Morgan	10	1	4	5	4
Central—					
Perry	26	18	3	5	932
Licking	14	10	3	1	347
Athens	14	..	10	4	...
Summitt	1	..	1	..	...
Fairfield	2	2	..	..	87
Meigs	9	6	2	1	31
Vinton	2	2	..	..	12
Muskingum	2	2	..	..	87
Holmes	2	..	1	1	...
Ashland	6	2	1	3	8
Jackson	4	..	4	..	...
Knox	6	..	5	1	...
Medina	5	..	4	1	...
Wayne	4	..	3	1	...
Stark	2	..	1	1	...
Gallia	1	..	..	1	...
Guernsey	6	4	1	1	165
Coshocton	5	..	4	1	...
Carroll	1	..	1	..	...
Hocking	4	2	..	2	45
Portage	1	..	..	1	...
Northwestern—					
Seneca	14	8	..	6	2,226
Wood	3	1	..	2	15
Allen	3	3	..	..	77
Van Wert	1	1	..	..	15
Mercer	1	1	..	..	11
Auglaize	1	1	..	..	15
Total	178	74	58	46	4,121

KENTUCKY

Warren	2	1	..	1	240
Hopkins	1	..	1	..	...
Allen	3	1	..	2	1
Daviess	30	23	..	7	900
Hancock	1	1	..	..	25
Ohio	56	33	4	19	1,735
Breckenridge	3	3	..	..	35
Wayne	2	1	..	1	3
Johnson-Magoffin	2	2	..	..	45
Estill	4	2	..	2	6
Barren	8	4	..	4	59
Caldwell	1	1	..	..	5
Owsley	1	..	1	..	...
Clay	1	..	..	1	...
Total	115	72	6	37	3,054

TENNESSEE

Clay	2	2	..	..	900

MOUNTAIN STATES

WYOMING

Field—	Barrels
Salt Creek	1,136,050
Grass Creek	74,950
Elk Basin	30,550
Big Muddy	82,750
Lost Soldier	124,850
Rock River	84,700
Lance Creek	15,900
Others	209,600
Totals	1,759,350

MONTANA

Field—	Barrels
Cat Creek	52,200
Kevin-Sunburst	253,400
Others	4,050
Total	309,650

COLORADO

Field—	Barrels
Moffats (Craig)	35,350
Fort Collins	80,300
Florence	34,500
Others	90,000
Total	240,150

NEW MEXICO

Field—	Barrels
Artesia	33,150
Table Mesa	3,250
Hogback	12,800
Rattlesnake	43,850
Others	6,200
Total	98,250
Total Mountain States	2,407,400

OKLAHOMA

Beckham	1	..	1	..	....
Caddo	1	1	..	..	40
Carter	10	8	..	2	1,975
Coal	1	..	..	1	....
Comanche	2	..	..	2	....
Cotton	7	4	..	3	200
Creek	26	14	2	10	2,487
Ellis	1	..	..	1	....
Garvin	1	1	..	..	60
Garfield	2	..	..	2	....
Grady	8	1	6	1	80
Grant	1	..	..	1	....
Hughes	2	1	..	1	70
Jefferson	12	9	..	3	255
Johnson	2	..	..	2	....
Kay	8	1	3	4	35
Kiowa	1	..	..	1	....
Lincoln	1	..	..	1	....
Logan	8	5	1	2	6,308
Marshall	2	2	..	..	131
Mayes	2	..	..	2	....
Muskogee	13	3	1	9	126
Noble	2	..	..	2	....
Okfuskee	10	9	1	..	2,001
Okmulgee	23	9	2	12	195
Osage	33	18	9	6	1,108
Pawnee	6	2	1	3	31
Payne	2	1	..	1	245
Pontotoc	4	4	..	..	800
Pottawatomie	32	27	1	4	59,528
Seminole	74	64	2	8	116,432
Stephens	26	16	..	10	1,480
Tillman	2	..	..	2	....
Tulsa	7	..	1	6	....
Wagoner	3	..	..	3	....
Total	336	200	31	105	193,587

OKLAHOMA PRODUCTION SUMMARY

Field—	Barrels
North Braman	92,050
South Braman	45,450
Blackwell	106,300
Hubbard	82,150
Thomas	40,450
Tonkawa	376,450
Garber	255,100
Burbank	896,500
Osage	835,850
Cushing	616,250
Yale-Jennings	231,750
Davenport	57,950
Bristow-Slick	648,150
North Okmulgee	455,250
Lyons-Deaner	167,750
Cromwell	289,050
Papoose	128,450
Wewoka	177,850
Seminole	1,566,850
Bowlegs	1,682,400
Searight	396,050
Little River	2,553,550
Earlsboro	2,584,200
Duncan District	235,950
Graham	163,450
Fox	50,950
Healdton	435,300
Hewitt	298,800
Scholem-Alechem	481,550
Pearson	110,550
St. Louis	1,992,300
Allen	648,900
Others	1,644,700
Totals	19,348,250

KANSAS

Barber	2	..	..	2	....
Butler	13	11	..	2	2,520
Chautauqua	3	1	1	1	25
Cowley	12	2	4	6	120
Dickinson	1	..	..	1	....
Elk	6	2	3	1	32
Greenwood	10	6	..	4	985
Harvey	1	..	1	..	....
Lyon	1	..	..	1	....
McPherson	2	..	..	2	....
Marion	6	3	..	3	100
Mead	1	..	..	1	....
Rooks	2	1	..	1	40
Russell	4	2	..	2	288
Sedgewick	2	1	..	1	1,700
Sumner	7	3	3	1	550
Total	73	32	12	29	6,360

KANSAS PRODUCTION SUMMARY

Field—	Barrels
Greenwood County	869,250
Florence-Covert	31,000
Peabody-Elbing	99,550
Eldorado-Towanda	396,900
Augusta-Fox-Bush	103,850
Rainbow Bend	48,000
Russell	118,400
Churchill	290,050
Oxford	310,100
Others	901,100
Totals	3,168,200

CALIFORNIA

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Baldwin Hills-Inglewood	2	2	..	..	245
Belridge	1	1	..	..	50
Brea-Olinda	1	1	..	..	300
Cat Canyon	1	1	..	..	300
Dominguez	1	1	..	..	200
Huntington Beach	4	4	..	..	310
Long Beach	26	26	..	..	31,100
Midway	3	2	..	1	3,525
Mt. Poso	3	3	..	..	960
Rincon	3	3	..	..	1,900
Round Mountain	2	1	..	1	175
Santa Fe Springs	1	1	..	..	2,800
Ventura Avenue	2	2	..	..	2,450
Wildcats	5	2	..	3	2,800
Total	55	50	..	5	47,115

CALIFORNIA PRODUCTION SUMMARY

Field—	Barrels
Santa Fe Springs	1,178,000
Long Beach	6,002,000
Torrance	544,700
Huntington Beach	1,635,000
Dominguez	341,000
Rosecrans	186,000
Inglewood	916,700
Midway-Sunset	2,293,500
Ventura Avenue	1,588,500
Seal Beach	943,500
Others	4,033,400
Total	19,662,300

ARKANSAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Calhoun	1	..	..	1	...	.....
Ch'mpagnolle	32	17	2-a	13	7,317	415,400
El Dorado	2	1	..	1	30	163,000
Lisbon	..	..	..	..	...	55,750
Nevada	..	..	..	..	...	44,050
Smackover	..	..	..	..	...	1,999,800
Stephens	1	1	..	..	20	31,700
Others	..	..	..	..	...	3,100
Wildcats	5	..	..	5	...	.....
Total	41	19	2	20	7,367	2,712,800

a—Includes 50 million feet of gas.

TEXAS

TEXAS RECAPITULATION

	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
N. Texas	140	85	1	54	22,812	2,969,050
Central-West Texas	206	88	9	109	7,195	1,667,050
W. Texas	139	112	1	26	646,045	10,612,650
Panhandle	40	24	10	6	4,850	894,050
E. Central Texas	..	..	..	..	...	674,900
Sw. Texas	31	17	3	11	3,445	789,150
Gulf Coast	68	43	2	23	15,156	3,282,900
Total	624	369	26	229	699,543	20,889,750

SOUTHWEST TEXAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Caldwell Co.	8	4	..	4	1,275	.....
Dale	..	..	..	..	...	37,200
Duval Co.	2	1	..	1	75	(c)
Laredo Dist.	..	..	..	..	...	269,100
Jim Hogg County	5	2	1a	2	40	(d)
Luling	..	..	..	..	...	416,650
Lytton Spgs.	..	..	..	..	...	32,100
Maverick Co.	1	..	..	1	...	.....
Somerset	..	..	..	..	...	21,700
Val Verde County	1	..	..	1	...	.....
Webb Co.	13	10	2b	1	2,055	(d)
Zapata Co.	1	..	..	1	...	.....
Others	..	..	..	..	...	12,400
Total	31	17	3	11	3,445	789,150

a—Includes 15,000,000 feet of gas.
b—Includes 30,250,000 feet of gas.
c—Production under "Others."
d—Production under "Laredo Dist."

TEXAS GULF COAST

Barbers Hill	..	..	..	..	...	19,200
Batson	6	5	..	1	58	43,400
Big Creek	1	1	..	..	1,200	112,300
Blue Ridge	11	9	..	2	8,355	238,800
Boling	1	1	..	..	175	63,600
Damon Mound	..	..	..	..	...	21,600
Goose Creek	3	2	..	1	150	210,600
High Island	1	..	..	1	...	(a)
Hull	7	5	..	2	370	333,100
Humble	..	..	..	..	...	42,200
Nash Dome	..	..	..	..	...	(a)
N. Dayton	..	..	..	..	...	(a)
Orange	3	2	..	1	15	110,700
Orchard	..	..	..	..	...	(a)
Pierce Junc.	4	2	1	1	1,655	327,900
Saratoga	1	1	..	..	60	35,550
Sour Lake	5	4	..	1	73	103,700
So. Liberty	3	3	..	..	540	116,150
So. Dayton	1	1	..	..	125	(a)
West Columbia	..	..	..	..	...	243,300
Spindle Top	6	3	..	3	1,360	1,170,600
Others	..	..	..	..	...	90,200
Wildcats	15	4	1	10	1,020	.....
Total	68	43	2	23	15,156	3,282,900

(a)—Production included under "Others."

EAST-CENTRAL TEXAS

Anderson-Cherokee Cos.	..	..	..	..	...	30,200
Corsicana-Powell	..	..	..	..	...	320,600
Currie	..	..	..	..	...	13,950
Mexia	..	..	..	..	...	211,350
Nigger Creek	..	..	..	..	...	30,700
Richland	..	..	..	..	...	17,050
Wortham	..	..	..	..	...	51,050
Total	..	..	..	..	...	674,900

EAST TEXAS

Panola Co.	1	..	..	1	...	.....

CENTRAL-WEST TEXAS

Brown Co.	58	32	1a	25	2,746	371,050
Callahan Co.	14	1	..	13	30	110,500
Coleman Co.	20	8	1b	11	464	107,350
Comanche Co.	1	1	..	..	20	.....
Eastland	14	5	1c	8	360	219,500
Erath Co.	2	..	1d	1	...	.....
McCulloch	2	..	2e	..	...	.....
Palo Pinto	5	..	..	5	...	13,750
Shackelford	27	15	..	12	1,850	331,200
Throckmorton	3	..	..	3	...	28,150
Stephens	7	3	3f	1	145	219,100
Young Co.	53	23	..	30	1,580	247,550
Others	..	..	..	..	...	18,900
Total	206	88	9	109	7,195	1,667,050

a—1,000,000 feet of gas.
b—4,500,000 feet of gas.
c—5,000,000 feet of gas.
d—10,000,000 feet of gas.
e—6,500,000 feet of gas.
f—12,000,000 feet of gas.

WEST TEXAS

Crane Co.	3	3	..	..	895	1,911,500
Crockett Co.	4	4	..	..	1,195	99,100
Howard Co.	16	16	..	..	14,255	232,100
Jones Co.	6	6	..	..	1,950	56,250
Mitchell Co.	..	..	..	..	...	94,800
Pecos Co.	24	23	..	1	131,425	2,160,250
Reagan Co.	10	10	..	..	1,445	565,500
Winkler Co.	50	48	1a	1	493,230	5,493,150
Wildcats	26	2	..	24	1,650	.....
Total	139	112	1	26	646,045	10,612,650

a—44,000,000 feet of gas.
*Includes Upton County production.

NORTH TEXAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Archer Co.	44	20	..	24	810	626,850
Burkburnett	..	..	..	..	...	305,850
Cooke Co.	4	3	..	1	100	(a)
Denton Co.	1	..	..	1	...	.....
Electra	10	5	..	5	180	320,450
Hardeman	1	..	..	1	...	.....
Jack Co.	3	2	..	1	670	53,650
Knox Co.	1	..	..	1	...	.....
K-M-A-Iowa Park	20	12	..	8	602	199,900
Montague	7	4	1a	2	75	340,250
Throckmorton	3	..	..	3	...	.....
Wilbarger	49	39	..	10	20,415	1,102,500
Young Co.	53	23	..	30	1,580	.....
Others	..	..	..	..	...	19,600
Total	140	85	1	54	22,812	2,969,050

(a)—Production included under Montague County.
a—Includes 7,000,000 feet of gas.

TEXAS PANHANDLE

Carson Co.	1	1	..	..	240	207,200
Gray Co.	21	16	5a	2	3,340	642,350
Hale County	1	..	..	1	...	.....
Hansford Co.	1	..	..	1	...	.....
Hartley Co.	1	..	1b	..	...	.....
Hutchinson	5	5	..	..	255	26,300
Moore Co.	3	1	2c	..	1,000	.....
Swisher Co.	1	..	..	1	...	.....
Wheeler Co.	6	1	4d	1	15	18,200
Total	40	24	10	6	4,850	894,050

a—10,000,000 feet of gas.
b—50,000,000 feet of gas.
c—28,000,000 feet of gas.
d—82,000,000 feet of gas.

LOUISIANA

NORTH LOUISIANA

Bellevue	..	..	..	..	...	23,650
Bossier	3	..	2a	1	...	.....
Caddo Parish	3	3	..	..	110	391,200
Cotton Valley	3	1	2b	..	140	139,450
De Soto Par.	1	..	1c	..	...	123,900
Elm Grove	1	..	1d	..	...	17,600
Grant Parish	1	1	..	..	60	.....
Haynesville	..	..	..	..	...	184,200
Homer	..	..	..	..	...	134,200
Morehouse	3	..	1e	2	...	.....
Ouachita	1	..	1f	..	...	.....
Richland	3	..	2g	1	...	.....
Urania	1	1	..	..	50	213,200
Webster Par.	4	2	2h	..	16	18,300
Winn Parish	1	..	..	1	...	.....
Wildcats	6	..	..	6	...	.....
Total	31	8	12	11	376	1,245,700
S. Louisiana	27	14	..	13	5,306	768,100
Total La.	58	22	12	24	5,682	2,013,800

a—51,500,000 feet of gas.
b—55,000,000 feet of gas.
c—20,000,00 feet of gas.
d—20,000,000 feet of gas.
e—7,000,000 feet of gas.
f—5,000,000 feet of gas.
g—50,000,000 feet of gas.
h—5,500,000 feet of gas.

SOUTH LOUISIANA

Bayou Boullion	3	1	..	2	300	16,200
E. Hackberry	7	5	..	2	4,026	136,700
Edgerly	4	2	..	2	40	32,250
Evangeline	5	4	..	1	795	40,200
Lockport	1	1	..	..	100	113,350
Sorrento Dome	1	..	..	1	...	37,500
Sulphur	..	..	..	..	...	106,300
Sweet Lake	..	..	..	..	...	120,750
Vinton	2	1	..	1	45	136,800
Others	..	..	..	..	...	28,050
Wildcats	4	..	..	4	...	.....
Total	27	14	..	13	5,306	768,100

PERSONAL MENTION-MEN YOU KNOW

C. H. Bott, salesman for the International Supply Company, has been transferred to the Blackwell, Oklahoma, offices of the company. Mr. Bott formerly was stationed at the McCamey, Texas, office.

F. H. Ryan, representative for the W-K-M Company in Tulsa, has returned from a vacation trip.

B. C. Taylor, vice president of the Lincoln Electric Company of Cleveland, Ohio, has just completed a trip through the Texas fields. B. K. Smith, president of the Big Three Welding and Equipment Company of Houston, Southwestern sales representatives of the Lincoln Company, accompanied Mr. Taylor back to Cleveland for a sales meeting and inspection of new welding equipment recently developed by the Lincoln Company for pipe line and tank welding.

Benjamin C. Belt, chief geologist for Gulf Production Company in the North Central and West Texas district, returned to his headquarters at Worth late last week after spending the past month in California.

C. H. White, formerly chief clerk and warehouseman for the Humble Oil & Refining Company at Sugarland is now in the Houston headquarters of that company as assistant to M. "Bink" Manning, Gulf Coast field superintendent, taking the place of C. E. Richards, who recently resigned. Mr. White has been with the Humble for about eight of the 13 years that he has spent in the oil fields. A large part of his work for the Humble Company was at the Orange field.

W. H. "Bill" Elliott, of the Maloney Sales Corporation, Tulsa, is vacationing for a few weeks in Canada.

William S. Gattrell of the Penn Mexican Fuel Company, Tampico, Mexico, is in the United States recuperating from illness. He will return to Mexico within the next two weeks.

J. L. Dittman, of the Wall Rope Works Company, Tulsa, is in Casper, Wyoming, on a business trip.

E. H. Raymond has been transferred from the Eldorado store of the International Supply Company to the company's Wewoka, Oklahoma, store.

John Johnson, of the Prairie Oil & Gas Company scouting department, Tulsa, has spent the past two weeks vacationing.

D. W. HARRIS

formerly treasurer of the Empire Companies at Bartlesville, Oklahoma, now has been named vice president and general manager of the Arkansas Natural Gas Corporation, a Doherty subsidiary, with headquarters at Shreveport, Louisiana.

Chas. S. Hart, 51, vice-president of the Hart Oil Corporation, died September 13 while on a business trip to Prescott, Arizona. Hart has resided at Fort Worth for the past six years, and the body was returned there for burial.

Dean Rollins, formerly with the International Supply Company, Tulsa, has accepted a position in the office of the credit manager of the Wickwire Spencer Company, Tulsa. Mr. Rollins' successor is Ed. McElhaney.

L. O. Koen, vice-president and sales manager for the W-K-M Company at Houston, was a visitor in Tulsa last week.

M. J. Kirwin, chief engineer, Indian Territory Illuminating Oil Company, Bartlesville, returned early last week from a vacation spent in the lakes of Minnesota and Wisconsin.

George Sawtelle, vice president and general manager of the Kirby Petroleum Company, has moved his residence from San Angelo to Houston, main headquarters of the company. For the past three years he was in charge of the San Angelo office. He will now divide his time, spending about one week out of the month in San Angelo, and the rest in Houston. Eugene Peeples, formerly in charge of the company's office at Roswell, New Mexico, will move to San Angelo and have charge of that office. The Kirby Petroleum Company has production in the Yates field, Pecos County, and the Powell field, Crockett County; and has extensive royalty holdings throughout West Texas. It also has oil properties in New Mexico and in the Texas Gulf Coast.

George M. Bevier, division geologist of the Pure Oil Company, Gulf Coast division, with headquarters in Houston, is spending his vacation at various points in West Texas.

W. C. Andrus, factory representative of the Cameron Iron Works, Houston, visited various fields in the Louisiana Gulf Coast last week, including Lockport and Vinton.

Carl W. Clarke, geologist, Darby Petroleum Company, Tulsa, died from a fall from the fifth floor of an Oklahoma City hotel September 13. He had made a business trip from Tulsa via Shawnee. Clarke is survived by his wife and two small daughters.

Fred W. Robertson, purchasing agent for the Skelly Oil Company, was in South Texas last week on a vacation trip.

ELECTRIC POWER
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Texas Power & Light Company

General Offices

Interurban Building, Dallas, Texas

To drill deep holes and drill them fast it takes not only powerful equipment but heavy equipment and demands from the field have brought on

The Big Rotary Rig of Today

A mechanical study of what has taken place in this line of equipment during the past few years

In Three Parts—Part Three

By HARRY PENNINGTON
Mechanical Engineer

THE capacity of slush for flushing cuttings upward is a matter of velocity and viscosity, the sum of which sets up a proportional average carrying capacity according to the cube of velocity. The increase of either viscosity or velocity sets up a different ratio of carriage. True gumbo, mixing into colloidal solution, adds to viscosity in a greater proportion than the weight increases, while shales, tending to settle out, make weight greater, without the same ratio of increase in viscosity.

Velocities of over two and one-half feet per second may be maintained without serious caving of the well wall in Mid-Continent practice, with fairly heavy mud, but, on the Gulf Coast, a loose sand wall requires a lower velocity. Pump speeds from 30 to 50 are maintained with velocities from 1.96 to 3.26 feet per second.

It seems, however, that caving may be started when a tight fitting bit passes through a softer into a harder stratum. When the bit fills the hole, as shown in Figure 7, velocity of slush passing the bit is much higher than further up the hole, around the drill pipe, and when the harder stratum is struck, requiring more time to drill, the softer stratum immediately above may erode, being longer exposed to high velocity. In such cases, it is reasonable to assume that high velocity will start caving.

If any kind of bit fills the hole, say 11 inches, and leaves a water course up the hole around the bit, in area 12½ square inchest net, through which water must pass, when the pump is running 45 revolutions per minute, velocity passing through the constricted water course around the bit, becomes nearly 12 feet per second, which is sufficient to erode softer sand rock and lime rock.

In irrigation canal work, flowing clear water, velocities must be held down to below three feet per second, else the dikes will erode and fail. Muddy water, plastering a dike, however, allows a slight increase in velocity, but the velocity must be sufficiently low to prevent agitation of mud already deposited which would dislodge the same. As in a drilling well, soils vary and various velocities may be used up to a point slightly below the erosional velocity.

Then, we can see that the 18-inch stroke drilling pump has a far wider range of hole capacity than the smaller pumps. In holes larger than 18 inches, however, the 18-inch stroke pump, at 65 revolutions, does not maintain sufficiently high velocity and it would not be amiss to run both pumps in these holes, at such speed as will deliver velocities from one and one-half to two feet per second for flushing cuttings out.

The larger hole will not sustain as high velocity as the smaller hole, however, because a large hole, with its greater circumference, offers less arch effect for wall support, due to the strength of the wall material and adherence. Gumbo, for instance, adheres more closely than soft sandy shale, and rock, sand rock, with its grains cemented together with lime, adheres very firmly.

Drilling Hose

For carrying slush, drilling hose has always been subjected to high velocities, as well as high and intermittent pressure. Fortunately, rubber lining of hose is the best wear resisting medium, and this fact secures fair service from hose.

A three-inch hose sets up velocities of 28 feet per second at 40 revolutions and 42 feet per second at 60 revolutions. Regardless of what service is obtained from hose, a larger cross-section of hose obtains longer hose service, at these high velocities in the smaller hose.

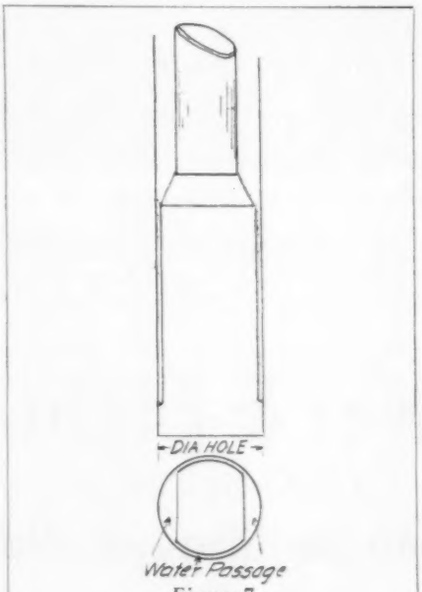

Figure 7
Sketch of bit in hole, showing constricted water passage

When two drilling pumps are connected with the water ends in tandem, the pressure of the foregoing pumps, so connected, sets up pressure of 1600 pounds on the hose. Naturally, a hose must be good, and the wire or tape winding must be perfectly maintained.

It might be mentioned that new pure gum hose lining affords materially better service than re-worked rubber, for the latter does not possess the abrasive resistance of the pure gum. The price of rubber is now relatively low, so that the best lining should not elevate the price materially.

When the string of pipe is lifted, with the swivel connected, but with the drilling pump shut off, a partial vacuum is developed in the hose, which will loosen the lining if the lining is not firmly attached to the hose fabric. Tests of hose, therefore, should include the measurement of lining adherence, as rubber belts are tested for adherence of the friction coat.

The higher circulation pressures that may be generated with the higher steam pressures of the big rig, require very strong hose. Wire wound hose loses the required strength when the wires separate, anywhere in the length, or at the coupling ends, hence, interlocking steel tape wound hose has been devised for drilling purposes, with required flexibility.

Manifold

Pressure relief valves, for relieving high slush pressures, are not used on steam pumps, consequently when the discharge is shut off at the time the bit plunges down into gumbo, steam pressure builds up, which may place full boiler pressure in the steam cylinders, and in turn, full shut-off pump pressure on the hose, which, in the pump considered, is 800 pounds with 200 pounds steam pressure.

Then, the manifold, fittings, valve and hose, in this equipment must have a safe pressure capacity of at least 800 pounds. All pipe used in manifolds has a pressure capacity higher than 800 pounds, and the fittings and valves therefore, for light weight, should be of steel.

For fast setting up and tearing down,

Composite Oil Equipment Catalog

MANY times during the past several years we have been asked why there is no Composite Catalog of Oil Field Equipment. Other industries and professions, notably chemical, engineering, architectural, quarrying, et cetera, have composite catalogs which supplement the large manufacturing and supply companies' catalogs, used by them and which have proven very valuable to the readers. Accordingly in January, next, we shall publish a Composite Catalog of New, Improved and Standard Oil Field and Pipe Line Equipment. It is not the purpose of this Catalog to take the place of any of the catalogs of the various supply companies but to assist and supplement them.

Following are some of the features of this composite catalog:

Detailed descriptions of new, improved and standard equipment used in oil production and pipe line business. These descriptions will be profusely illustrated and will show the full details on several hundred different types of equipment.

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It will be fully indexed and cross-indexed in order that anyone desiring to learn about various makes of a given piece of equipment may turn to the pages containing these descriptions readily and without loss of time.

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The facilities for distributing the product will be given in full with location of all distribution points. If the product is handled through factory representatives or special representatives their names and addresses will be given.

In the back of this Composite Catalog will appear the complete, revised and up-to-the-minute standardization specifications of the American Petroleum Institute, this being the first time that this has been done under a permanent cover.

The cover of the Composite Catalog will be high grade imitation leather, and the binding will be of the very highest quality.

Gulf Publishing Company

Houston, Texas

the manifold may well be flanged, instead of screwed; unless the same is welded up, in portions, as some assembled manifolds have been, screwed fittings tend to leak, and slush at high pressure opens up leaks quickly when once started. Using flanged fittings, with the flanges welded to the pipe, leaks very rarely occur and tearing down is a matter of taking out bolts, instead of using the tongs to unscrew.

The reciprocating duplex pump sets up vibration on the manifold, when stiff connected, and the use of a short section or wire, or ribbon wound, high pressure hose, between pump and manifold serves to relieve the manifold and prevent leaks from developing, has entered the field with good results.

Figure 8 shows a screwed manifold, while Figure 9 shows a flange connected manifold. The latter is somewhat more expensive, but will serve for much longer periods than the former without leaking.

These manifolds are shown as made of four-inch pipe, fittings and valves. The velocity of 514 gallons per minute at 40 revolutions per minute in four-inch pipe is 16 feet per second—sufficient to erode pipe, valves and fittings when slush contains some sand. At 60 revolutions per minute, velocity becomes 24 feet per second, which is entirely too high, and when holes are so large that the 18-inch stroke pump must be operated at 60 revolutions, the manifold necessarily must be increased to five-inch, if an adequate length of service is to be obtained from the same.

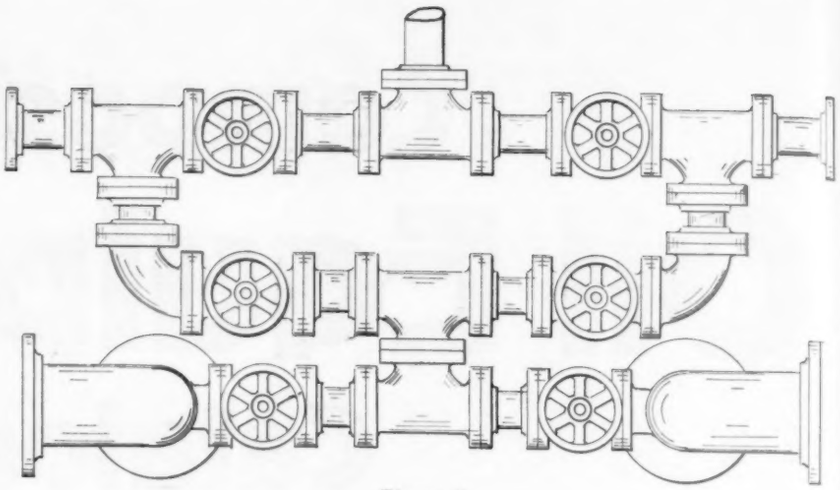

Figure 9
Flanged manifold for tandem or manifold pump connection.

Drill Pipe

The big rig has improved the pipe handling speeds, by providing greater power, greater flexibility of power, but the actual drilling—turning the pipe around on bottom—depends upon drill pipe and its capacity in torsion.

In the past two years, drill pipe has been materially improved, particularly in raising the carbon content, as well as in the method of working the steel during manufacture.

The Standard Seamless Tube Company recently installed heat treating equipment for drill pipe, securing all the advantages of treatment that have made other higher carbon steel parts so strong and reliable.

This company furnishes the following:

Torsional capacity of drill pipe—

Four-inch 13.6-pound, 30,400 pound-feet.

Five-inch 22-pound, 58,700 pound-feet.

Six-inch 25-pound, 81,000 pound-feet.

Six-inch 31¾-pound, 100,000 pound-feet.

The twisting moment being proportional to the moment of inertia, six-inch 25-pound pipe, weighing about 15 per cent. more than five-inch 22-pound pipe, increases in strength approximately 40 per cent., due to the placement of material of the pipe further from center, increasing the moment of inertia.

Revolutions per minute and torque are components of horsepower; at 60 revolutions per minute of the drill pipe, the horsepower becomes:

$$BHP = \frac{TR}{5252.1}$$

In which T equals torque and R equals revolutions.

Then, each 1000 pounds feet or torque represents 11.4 horsepower without safety factor. With a safety factor of 10, which is necessary, the horsepower becomes 1.14 per 1000 pounds feet, so that using the heaviest six-inch pipe with its quoted torsional capacity limit of 100,000 pound-feet, the horsepower that may be transmitted at 60 revolutions is 114—truly a great advance in drill pipe manufacture.

But not all this power reaches the bit because of pipe friction against the well wall while turning in the hole, particularly when considerable weight is let down, and the pipe flexes. Immediately below the rotary, the torsional load on the pipe is greater than at bottom. In so far as friction in the hole, formations that require heavy bit pressure may be drilled at slower speeds with greater safety than at high on account of friction increasing in a greater ratio than speed.

Pipe usually fails at a place where it is fatigued by stressing above the elastic limit; fatigue fracture has a characteristic aspect, and several twist-offs observed showed fatigue.

In the softer formations, such as shale, loose sand, and packed sand, it is largely a question of getting the cuttings out of the hole, away from the bit. In these formations, drill pipe has little work to do, because soft formations require low weight to make the bit dig. The drilling pump then is the means of making hole, and the 18-inch stroke, furnishing high slush velocities, is the means of making some of the records of 1000 feet per day, or so, with a single bit.

In the intermediate formations, intermediate as to hardness and cutting qualities, weight on top of the bit must be added to make the bit take hold and dig. Since the torsion set up by weight on the bit increases, and since torsion and revolutions per minute make up the horsepower, drilling then is a matter of how much horsepower we can transmit down to the bit safely, for turning it while drilling.

Larger and heavier drill pipe adds materially to the power applied to the bit, and the twin engine delivers all the power that can be safely carried by the bit.

In this class of formation, which is usually gritty, change of bits is more frequent, and the greater power of the twin engine, together with the facility of the big rig, sets up fast handling speeds of pipe coming out and going back into the hole.

For drilling the hard formations—rock of all kinds—the cone and roller type rock bits require considerable torsion, which is furnished by heavier and larger drill pipe, together with the ample power of the twin engine. And, for changing cutters, and lubricating, which must be done

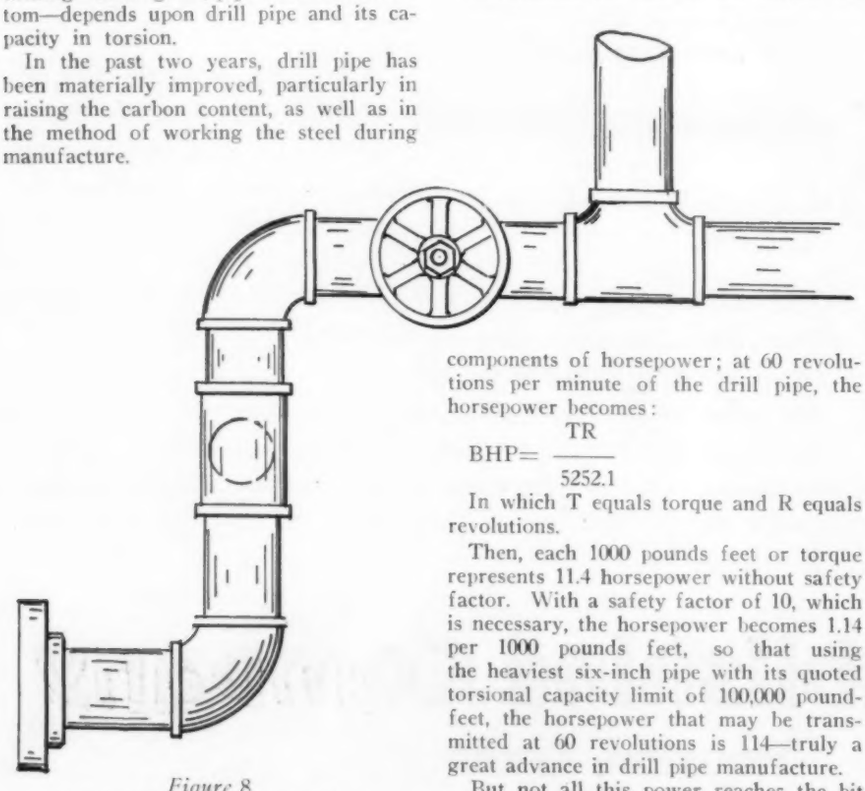

Figure 8
One-half of screwed manifold.

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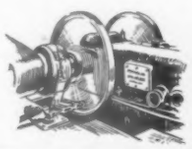

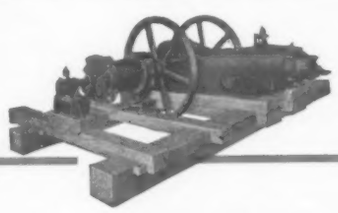

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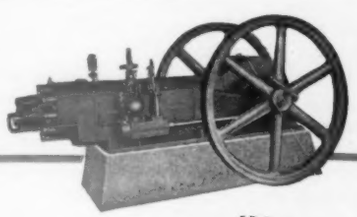

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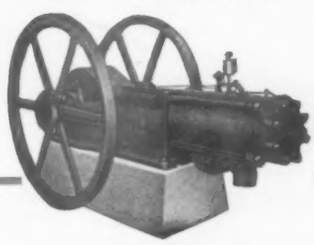

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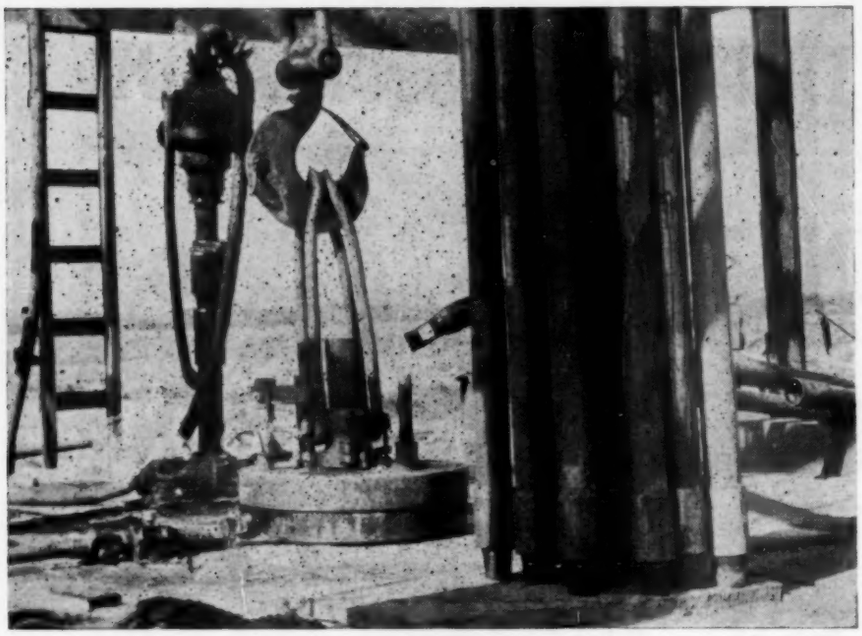

Figure 10
Spring latch elevators by Wilson & Willard Manufacturing Company.

at intervals, the time is hastened by ample engine power.

There are some formations, with grit, that are not hard enough for rock bits of the usual type, yet too hard for easy drilling with scraping bits, that baffle our efforts at cutting at a reasonable cost. In these, changes of bit are frequent, most of the time being used for coming out of the hole and going back. In Dimmit County, Texas, for instance, there are massive formations composed of hard shale, filled with sharp grit in which bits are readily worn in a few minutes to where they will cut no more, requiring frequent changes.

In changing bits, each individual operation of withdrawing drill pipe and in replacing the same is a matter of concern; hoisting heavy loads of pipe if facilitated with ample power, but, in furnishing the required strength in the big rig, other operations are somewhat slower, due to inertia of heavy parts. Dropping the blocks, for instance; while the heavy block will travel down fast, when once started, it starts down slowly, for it must turn, by its weight, the sheaves of traveling block, of crown block, pull the wire rope over them, and then pull the rope off of the drum, turning the drum.

Inertia of Parts

Rotating speeds of drill pipe range from a few revolutions per minute up to 100. The size of rotary being controlled by the diameter of bit that must pass through the table, the larger tables of rotaries for heavy well work set up inertia forces, or rotating energy, that requires heavy drill pipe for safety, when using higher rotative speeds.

In deep holes, where drill pipe has been reduced in size, without an indicator of some kind to determine how much weight is on the bit, it is rather difficult to know just when the pipe is resting on bottom, cutting, and how much weight is on top of the bit. There being great power in the twin engine, and the heavy rotary table tending to continue turning, when the bit hangs up either in gumbo or on a boulder, a twist-off is likely to occur.

Drill pipe has considerable elasticity in torsion in the smaller sizes; as many as seven twists may be obtained on four-inch drill pipe at 4000 feet without stressing the pipe beyond its elastic limit, but when a heavy table, together with heavy sprockets tends to continue rotating, even though the bit has stopped, the elastic limit of steel in the pipe may be reached, deforming the same, and a twist-off at that time, or subsequently, may occur.

As a consequence, heavier rotaries being required for deeper well work, together with heavier draw works, and more powerful engine, drill pipe must be stronger, so that the diameter is increased, and heavy weights per foot must be used. The hole, for larger drill pipe, must be larger, too, which adds to the duty required of pipe.

The hole is therefore carried down as far as possible with large pipe—eight-inch in some cases, six-inch in most. For instance, a hole may be carried down to 4000 feet with six-inch drill pipe in 11-inch hole; or to 5500 feet with five-inch drill pipe in 9⅞-inch hole; to 7000 feet with four-inch pipe in 7⅞-inch hole, and to over 8000 with three-inch pipe in six and one-fourth-inch hole.

This depends upon casing requirement; if the hole reduces to six and one-fourth-inch on account of casing being needed to support the well wall, or to shut off gas, at 5000 feet, say, then three-inch pipe must be used from that level on down, but as a general rule, the hole is maintained as large as possible, to prevent running out of hole should additional casing be necessary, although we know that the small hole is always drilled faster than the big hole.

This is for well making purposes. The method assists in making the larger hole, however, for larger drill pipe is used, and drill pipe increases in strength in a greater ratio than the bit diameter increases the required turning moment.

Assuming the torsional effort at each point of a nine-inch bit at 8000 pounds, which reduces to 3000 pounds feet per point, 6000 pounds feet is required for turning the bit, which is within capacity of four-inch 16½-pound pipe with a safety factor of six.

In 11-inch hole, with 8000 pounds effort at five and one-half-inch distance from center, the torque becomes 4000-pound feet per point, or 8000-pound feet total, which is below the capacity of six-inch 31¾ pound pipe. To elevate torque to the capacity of six-inch pipe weighing 31¾ pounds per foot, each point of an 11-inch bit may be driven with an effort of 18,000 pounds at each point, which is 2 1-7 times the effort that may be applied safely to the points of a nine-inch bit with four-inch pipe, hence six-inch pipe may do the drilling in 11-inch hole more vigorously than four-inch in nine-inch hole. The same reasoning applies to other sizes of pipe and other sizes of hole.

But, as the rotary becomes larger, and as the engine and draw works enlarge, for the greater diameter holes, allowance must be made for inertia of rotating parts. Large pipe is much stiffer than small, and will stand fewer twists for the same fibre stress, on account of the greater radius at which the metal of pipe is placed.

Tool Joint Tongs

When a fish tail bit is lowered into the hole, its forward curving blade point contacts the well wall, particularly in crooked holes, and since no hole is ever truly plumb, but angles with the vertical being as great as 35 degrees, pressure of the bit point against the hole will rotate the pipe backward, when lowered—the bit blade forming a screw, turning as it goes down the hole and digs the well wall.

Unless drill pipe is made up tightly, this will back the bit or pipe off down in the hole, without it being detected while it is unscrewing, setting up a fishing job.

Even though make-and-break rotaries are available, which can make up the pipe tightly, tool joints, in big hole work, are now tightened with the cathead, with the cat line attached to the tong handle. Friction catheads, and automatic catheads do this work quickly.

For tongs, in this service, the best there is must be available, both as to strength and facility of operation. To prevent "egging" tool joints with great pressure of tongs, the tong grip should surround the tool joint to distribute pressure as evenly as possible, for when breaking out pipe used in rough drilling, pressure will crush the tool joint out of round, particularly when the tong is placed on the tool joint opposite the threads by which the drill pipe is screwed in, even though upset pipe is used, because the pull of the catline exerts tremendous tightening effect of the tong.

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ing up pipe with the rotary, although these may be overcome with proper design of make up device and of hook. The spring hook was designed to allow the spring to compress when the pipe lowers as the tool joint is screwed up. Unless the spring is especially proportioned to the number of joints of pipe per stand, and to the weight of pipe—or, that is, to the weight per stand, the spring may be too light, or too heavy. If too light, the spring does not work; if too heavy, the spring sets up a great pull when the tool joint is made up, which burns the joint, unless the driller carefully lowers the blocks.

Burning the joints galls the threads of tool joints, wears them sharp on the top of threads, and renders them unserviceable. But, making joints up tightly has no bad effect, for standard tool joints are made up with powerful jacks, without damage.

Spring hooks were originally designed to lift the tool joint pin up, out of the box, without starting up the draw works, which means that while breaking out a tool joint, spring tension is greatest when it is started to breaking out, gradually lessening as the pin is unscrewed and lifted. And at the time the pin is completely unscrewed, the spring hook is supposed to lift the stand up, when it may be set back—all for speed and safety. Naturally then, the spring must suit the work exactly.

Elevators

Heavy loads of pipe, together with fast acceleration upward, set up by twin engines at higher steam pressure is also reflected in heavier elevators.

The elevator shown in Figure 10 made by Wilson & Willard Manufacturing Company, used extensively for rotary work because of its easy and fast operation, as well as safety has 2½ inch diameter links in the six-inch size for holes down to 4000 feet. The weight of 4000 feet of six-inch 32-pound drill pipe with tool joints is 134,000 pounds, less the usual one-seventh for submergence; kelly, swivel, hook and link weight adds 9500 pounds, making the total load on elevators 124,000 pounds. With the load equally divided between the four 2½-inch elevator link sections, the stress of starting a 124,000 load upward being 248,000 pounds, the stress per square inch in the links is 12,600 pounds, which is amply low when the links are made of good steel, perfectly welded.

For setting casings, which is done more slowly and carefully, 2½-inch links have a greater capacity, for casing is rarely accelerated like drill pipe, but is lifted slowly and then let down slowly, compared with drill pipe.

The Drilling Hook

The additional loads placed on hoisting equipment by twin engines with higher steam pressure, is reflected in larger sized hooks. The design of hooks, as well as the steel used in its construction, including heat treatment, is a matter of concern, for hooks are made and sold largely on a weight basis.

Bach's formula on curved beams applies to hooks, in using which, the section S, of Figure 11, must be modified to trapezoidal form as shown. Using this formula the radius of inside of hook is the basis of calculation.

Diameter of the section D is a matter of tensile strength of steel; a diameter of six inches, furnishes a cross sectional area of 28.27 square inches. Using a treated steel—an alloy, say S. A. E. 3240—the allowable stress in tension may be taken at 10,000 pounds per square inch, which affords a capacity of 282,000 pounds.

But, using a mild, untreated steel, where the stress may not be taken as great, with the same safety factor, the diameter of D at six inches is not large enough, hence, it must be made in the eight-inch size of hook for the same load.

Incidentally, it may be mentioned that the large sections involves in hooks as at D, are such that heat treatment does not penetrate all the way to the center, and the same stresses that may be used safely in say a two-inch diameter section cannot be used in larger sections like this.

Former practice was to make hooks of wrought iron, rather than steel, but treated steel hooks show far better factors of safety and reliability, as shown by exhaustive tests made in Navy practice for crane work in handling big cannon.

The C-link is subjective to the same method of computation as the drilling hook; as in hooks, heat treated alloy steels make better C links, also.

Wire Rope Gear

Along with the remainder of the rig, wire rope, traveling block and crown block are called upon for greater duty because of the increased power of twin engines with higher steam pressure.

The diameter of sheave depends upon the diameter of rope; for good service, the sheave diameter should be 50 times the diameter of rope, so that a one-inch hoisting rope would require 50-inch diameter sheaves, for securing rope service of some duration.

The alloy steel wire rope furnishes far greater strengths, averaging 50 per cent greater than plain carbon steel rope. For a given duty, the better rope allows its diameter to be reduced for the same strength, which obtains greater rope life. One and one-quarter-inch plain carbon steel rope approximates the strength of one-inch rope alloy steel rope. Use of the smaller, stronger rope allows the use of smaller sheaves, and as the sheaves on rotary rigs have never been made as large as will secure maximum rope life with safety, the better rope makes up for some of the difficulty.

The breaking strength of one-inch alloy steel rope is given at 45 tons, with a working load of one-fifth, or nine tons. As noted in this paper, the single line pull, at full line speed of 409 feet per minute, in low gear is 15,000 pounds, but when starting a load upward, the starting line pull is approximately double that of the pull required to keep the load moving, which stresses the rope beyond its safe working load.

A rotary rig must be kept ready at any time for a maximum pull; the quicker frozen pipe is pulled, the easier; and, with the advent of the sand tester, another reason for requiring pulling capacity has appeared for, if a sand tester is allowed to set for more than a few minutes, cuttings settle down on it around the pipe, requiring a pull to loosen the same.

Wire rope then, cannot be allowed, by wear, and strand breakage, to get below the capacity of maximum line pull of the engine.

Wire rope capacity may be retained by using sheaves that do not bend the rope around too narrow radius; this is an old rule in wire rope gear, but a rule that has not been observed. Coils upon coils of discarded wire rope point to the defects in design of crown and travelling block. In some instances, in particularly poor designs, the writer has noted wire rope making less than 100 round trips in a 3200-foot hole with four-inch drill pipe. To discard wire rope after such a short period is expensive, to say the least, without mentioning time lost in changing ropes.

The speed of wire rope travel in hoisting is greatest when the traveling block is run up light, going in the hole. The twin engine of the big rig operates at speeds up to 450 and 500 revolutions per minute, setting up a single line speed of 1800 to 2000 feet per minute. For correctly designed wire rope gear, a line speed of 2000 feet per minute is not excessive, for in mine work, in deep shafts, that speed is sometimes doubled, but with large sheaves, wire rope life is satisfactory.

The speed of wire rope travel is maximum when lowering pipe in the hole; lowering 105 feet of pipe in 15 seconds, with six lines, sets up a line speed of 2640 feet per minute, average, but since the 15 seconds time includes braking to stop the load, the line travel approximates 2000 feet per minute.

Again, this is not excessive, in correctly designed wire rope gear.

The diameter of sheaves for the big rig blocks is 36 inches average, and with one-inch rope, that diatmeter is smaller than will secure maximum rope service.

In this respect, California practice in stringing up, requires more lines than Oklahoma, Texas or Louisiana practice. Let us examine into this and note the difference.

As the number of lines increases, the hoisting capacity increases. Six lines, with a single line pull, sets up a load

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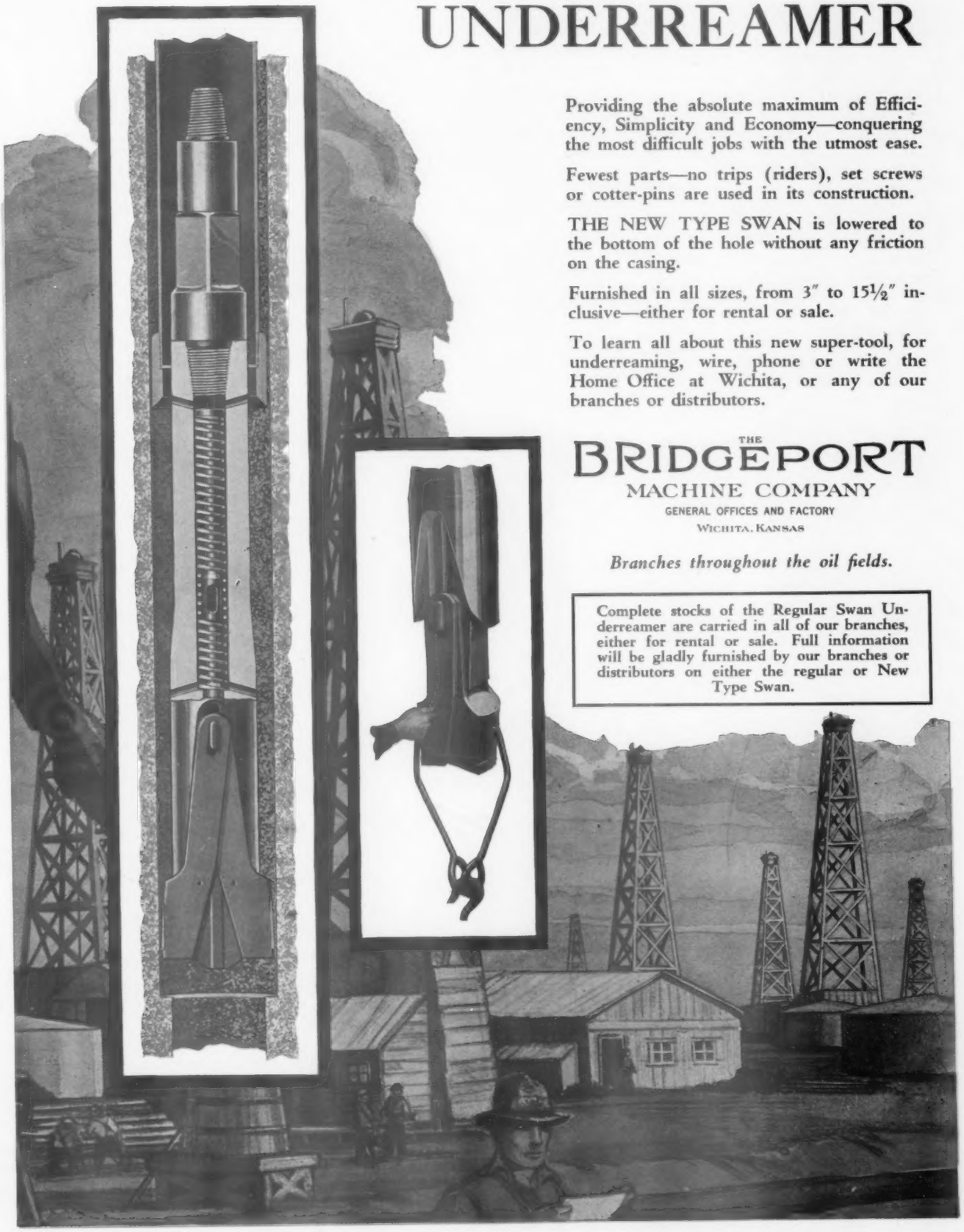

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hoisting capacity at speed of 90,000 pounds. To use nine lines for the same load, reduces the required line pull to 10,000 pounds, but to hoist the load at the same speed of 68 feet per minute, line speed must be increased to 680 feet per minute. The twin engine rig does this satisfactorily without change in sprocket ratio.

In high, with the engine at 450 revolutions, a single line speed of 2820 feet per minute is required to run the blocks up light in the same length of time as required with six lines at 1880 feet per minute.

Thus, while California practice runs the rope faster at lighter load, Mid-Continent practice runs the rope more slowly at heavier load.

In Mid-Continent practice, in low, with the engine at 250 revolutions, the single line speed is 1045 feet per minute, with a single line pull of 15,000 pounds, which lifts 105 feet of pipe, or five joints in a stand, in 36 seconds, and the maximum single line pull is 30,000 pounds when starting the load upward.

In California practice, in low, with the engine at 250 revolutions, the single line speed is the same 1045 feet per minute, with a single line pull of 15,000 pounds, which lifts 105 feet of pipe in 54 seconds. In Pacific Coast practice, however, with the lesser line pull of 10,000 pounds, the hoisting speed is greater with heavy loads, for the lesser pull allows greater engine speed.

Thus, California practice substitutes speed for intensity of pull.

Rope travel speed sets up wear on the wires of the rope; rope pull sets up damage to rope in bending over the sheaves. The practice of one may damage wire rope as much as the practice of the other, where the sheaves are of the proper design.

But, it is a maxim in wire rope gear, that heavy loads are best handled at slower line speed; because overloaded wire rope, bending around the sheaves, damages wire rope more than when the load is not greater than the capacity of rope, however, particularly when the sheaves are smaller than should be, California practice secures an appreciably greater rope life. But this is at the expense of time, and on account of the greater speeds in handling pipe, Mid-Continent practice exchanges rope costs for hole made.

Instead of making the sheaves larger, as they should be in current practice today, if the wire rope is stronger, its size may be reduced to compare favorably with sheave diameter.

For example, the 58-inch minimum diameter sheave required for 1¼-inch rope may be reduced to 48-inch diameter when one-inch rope is used. However, the requirement of 48 inches in diameter for one-inch rope has not been met, sheaves being now 36 inches in diameter for the big rig.

Earlier designs of crown and traveling block, though, had sheaves from 20 inches to 24 inches in diameter, and present practice, with larger sheave diameters, is a decided improvement.

The practices in the field, toward safety of wire rope, and wire rope life, is diverse. Some operators discard wire rope when the strands outside are worn to less than 70 per cent of their original area; others take more, particularly the number of broken wires, discarding rope when the number of broken wires in any consecutive ten feet exceeds five per cent of the total number of wires; others discard wire rope when it shows two broken wires in any successive two feet of rope; another rule is that when the rope has decreased in diameter 1/16 inch, the rope is unserviceable, and, in addition, cuts grooves in the sheaves; another rule is that a rope may be used for a definite line travel, obtained from records of round trips made.

In any event, after the rope has decreased in strength 20 per cent by wear, alteration and wire fracture, it should be considered unserviceable.

But, to use wire rope gear with sheaves materially smaller than allowable for good service, thereby limiting the utility of rope, and then to make claim against the manufacturer, is unethical practice, to say the least, for wire rope has its limitations which should be recognized by the field.

Wire rope wears most where it is wrapped around drum and sheaves when a load of pipe is being started upward; by changing ends of the rope, before it is damaged to the unsafe point, rope life may be lengthened by one-fifth to one-third.

Overwinding of a layer of rope on another on the drilling drum, in the design of rope drum of the big rig is a continued practice. Capacity of a single layer of rope around a 20-inch drum 30 inches long, using one-inch rope, is 30 turns each, is 157 feet of rope; hoisting 105' feet of pipe, with six lines reels in 630 feet of rope, making four layers of rope; with nine lines, there are six layers.

Overwinding is always a source of damage to wire rope, but to make a drilling drum long enough and of sufficient diameter would render the rig very unwieldy, and require a complete re-designing of the draw works. Spooling devices, to insure that rope whip will not wind rope unevenly, assist in laying the rope on evenly, though. The big rig is not accompanied with a spooling device, though, and the same must be added. When spooled on accurately, a pull does not force rope down in between two strands already on; if a pull forces a strand down, thus, the wires are dislocated or broken.

Another source of damage to wire rope is that of bending when pipe is dropped a short distance at the time a bit hangs up on the well wall when going in the hole.

This may set up a load on the wire rope gearing of four times the weight of pipe, and while the rope usually never breaks, still individual wires may be broken, or stressed beyond its elastic limit in bending, especially with smaller sheaves.

There is no remedy for this; holes, particularly in rock, persist in getting out of gauge and out of round, and a new bit must be reamed down when the hole is found tight.

Travelling Block

The weight of travelling block averages three tons in the big rig. Weight is necessary, not only to make a strong, durable block, but also to make it come down fast, because it must overcome the friction of three drum bearings, or two, which are eight or nine inches in diameter, as well as friction and bending of rope around the sheaves, and the friction of crown and travelling block, as well as inertia of all the parts.

There is so much friction here, that all means of reducing the same, assists in securing fast falling of the light blocks.

Crown block and travelling block sheaves usually run on roller bearings, which eliminate something like 85 per cent of block bearing friction in starting, compared with bronze or babbitted bearings. With straight rollers, though, the hubs may rub the travelling block housing plates, setting up some friction. Sheave rims should never contact the block plates, but should devolve continually without rubbing the sides.

In hoisting, the rotative speed of the sheaves beginning with the first one over which the line travels, is successively lower; starting a load therefore, sets up a side sway of the block, which must be taken into account in the design of block, to prevent friction.

For safety, the streamline block was designed originally by the writer in 1912, as a means of preventing the block from hanging under the finger board and upsetting the derrick man, as well as allowing the pipe to fall over in the derrick when the finger board is pulled up by the block hanging under it.

Distance from finger board to the nearest extremity of block is held down to as short distance as possible, with safety—most times, too close for safety when a stream line block is not used. Then, a block without projecting plates, nuts, pins, bolts, ribs, so arranged that if the rope touches the finger board, followed immediately by the block, that there is no projection beyond the rope that will hang under the board adds to safety of derrick man, and also assists in handling pipe, for a safe block is always run up at higher speed without slowing up than an unsafe block.

Slips

Slips for the big rig have considerable work to do, without scoring or denting the pipe. The taper of slips, in the older designs, was 3½ inches per foot, on diameter, taken from standard tool lifting ring practice.

The holding capacity of slips is controlled by weight, and taper; where the weight is great, the taper may be correspondingly reduced, for the grip

Mocks at
terrific winds
The Moore
CHAMPION
a super derrick

The Moore CHAMPION
a super derrick

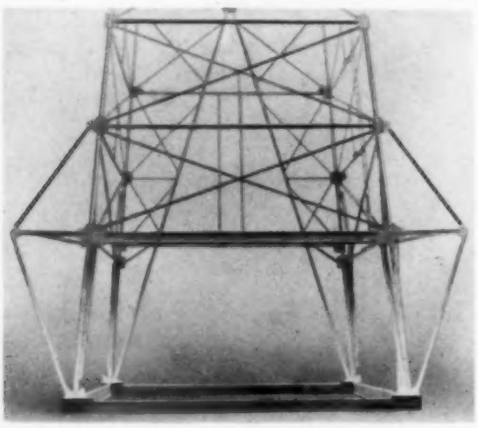
Conquers the Giants in the Oil Country

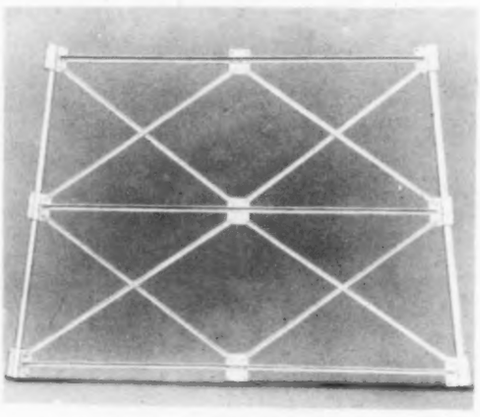
THE tornado breath of the *Wind Giant* blows destruction to all but the strongest derricks. Every storm leaves an object lesson in the correct design and great strength of the Moore Champion Derrick. It is built to withstand heavy overloads.

The structural steel bracing of the Moore Champion Derrick makes a very rigid structure. Full X bracing is used in seven-foot panels, and double X bracing is used in long panels of high derricks. Sag rods run from the longer girts to the brace intersections above. At their intersection, braces are attached by a bolt and a pipe separator. They are thus held rigidly and without vibration.

Convenience of assembly also marks this bracing. Two holes are punched in the center of all braces. They can be used, either end up, without sorting rights and lefts. Bolts may be tightened with one wrench. The whole structure is quickly erected or dismantled.

Galvanized bracing is used where climatic conditions require it. Aluminum paint gives satisfactory service where galvanizing is not necessary. The seamless tubular leg sections are galvanized in all Champion Derricks.





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Stocks in all Principal Fields

should be only that sufficient to take hold of the pipe without digging the teeth into the pipe.

Without scoring the pipe, the supporting capacity of slips is a measure of friction, as well as of teeth.

Hence, slips, for deep well work, are longer than for shallow work.

The taper of slips has been standardized by the American Petroleum Institute at four inches taper per foot of diameter, which furnishes less gripping of the pipe, to be sure, but, the heavy weights of pipe in deep wells, drilled with the big rig, is more than required when a less taper is used, and the increasing of taper is advantageous for deep wells. As wells are drilled to even greater depths than maximum today, a still greater taper will serve further to permit the use of slips. On many wells, certain types of slips will not withstand the heavy radial pressures on sections and teeth, and elevators are used—two elevators, such as was the practice before slips came over into rotary work from standard tool work

Weight of the Big Rig

Weights approximate the following:

	Pounds
Three boilers, 85 HP each, A. S. M. E. Code for 175 pounds	52,000
Boiler feed pump, injector, steam and water piping, valves	4,600
Twin 12 x 12 engine	8,800
Two 18" stroke pumps	28,00
Steam piping to engine and pumps	2,100
Suction pipes to pumps, foot valves	1,600
Draw works and chain	25,600
Wire rope	1,900
Travelling block, 4 sheave	6,000
Crown block	3,600
Swivel	2,400
Hook	850
C link	700
Rotary, 20", make and break	11,000
Elevators, 4", 6", 6⅝", 8", 10" 12½"	2,000
Tool joint tongs, two	650
Casings tongs	1,800
Cat line	125
Lighting generator, piping	550
Drilling hose	400
Bits of all kinds	6,000
Two drill collars, 6"	2,400
Kelly, 45' with sub	4,900
45 tool joints, 6"	8,000
4,200 feet 6" drill pipe	105,000
65 tool joints 4"	4,500
6,000 feet 4" drill pipe	100,000
Two drill collars, 4"	1,200
Fishing tools, bailer, repair parts	5,500
Rat hole pipe for kelly	1,400
Tool room	1,600
Total weight	341,125

Water tanks are not included, nor fuel tanks; on a prospect hole, these must also be shipped, adding, for bolted tanks, about 9600 pounds, forming a total weight of about 175 tons, requiring five to six cars for transportation.

Oklahoma Gains Sends Production Up During August

(Continued from page 44)

Oklahoma

Development of South Little River and St. Louis fields in August brought a startling increase in completions and initial production over the previous month in Oklahoma. New oil added in August mounted to 193,587 barrels as compared with 59,731 barrels in July, a gain of more than 300 per cent. St. Louis and Little River fields accounted for more than 170,000 barrels of this initial output with big wells in Wilcox sand being added daily through the latter half of the month.

August registered completion of 200 oil wells and 31 gas wells out of the 336 wells completed in Oklahoma. This compares with 145 oil and 49 gas producers out of 304 drilled in July. The past month closed with great activity under way, indicating that September also will show a heavy initial yield. In Greater Seminole, chiefly at Little River pool, there were 64 oil wells completed out of 74 drilled, and 116,432 barrels initial production was recorded. Pottawatomie County, notably from St. Louis field, had 27 oil producers completed for a combined yield of 59,528 barrels initial production.

Kansas

Activity in Kansas showed a slight decrease in August, having only 6360 barrels initial against 7047 barrels for July. Seventy-three completions were added in August against 77 in July and the oil producers totaled 32 as compared with 32 for the previous month. Twelve gas wells were completed in Kansas against seven in July and 29 failures were recorded against 37 in July.

While this decrease came to Kansas that state got its most important completion in the year, with Bu-Vi-Bar-Marland-Gypsy's Wright 1, north of Wichita in Sedgwick County making 1700 barrels clean oil from 3367 feet. It stands out as a probable major field opener and will mean wide exploration work in this area as well as big production when crude prices warrant development.

Eastern States

A slight gain in field work with a corresponding increase in initial production showed in Eastern States. Total production however was off 3100 barrels as compared with July.

Mountain States

Production in the Mountain States section fell below July figures by 90,800 barrels. The decrease was shared by all the states making up the group with Wyoming showing the heaviest drop. Total production for August for the district was 2,407,400 barrels against 2,498,250 barrels for the previous month.

California

August was a dull month in California, compared with the many important discoveries during July. Production showed a small decrease, due to the drop in the most critical field.

Probably the outstanding event of the month was the increase in crude prices for all grades above 21 gravity in the southern fields and nearly all grades above 22 gravity in the northern fields. This boost was not expected at the time, but was made to correct a rather troublesome situation. Premiums had been paid at Long Beach for some time and there had also been some agitation for higher prices since the initial raise in the Mid-Continent fields. The failure to raise or lower the heavier grades is considered good strategy. Raising the price would have brought about a move to release much of the shut-in production, while the lowering of the price would have been taken as a thrust at the heavy oil producer, who has had many troubles since overproduction struck the state.

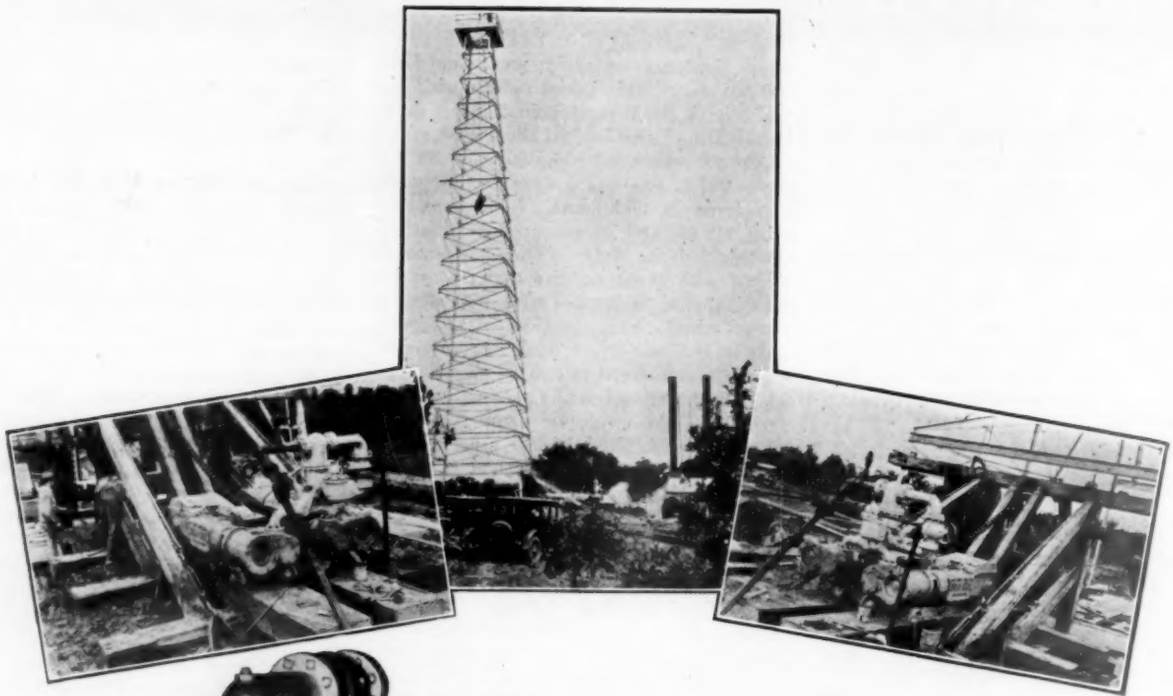
Santa Fe Springs is in the throes of a drilling campaign which promises to equal the hectic days of 1923. More than 150 locations have been made and upward of 100 wells are already drilling. Fully 50 more wells will be started at the first favorable development. The field is going through a period of suspense and only additional completions in the deep zone will reveal its possibilities. The Wilshire Oil Company, discoverer of the deep sand, has not made public the log of Buckbee 1, leaving the operators to feel for the zone as best they can. Reliable reports stated that the discovery well produced more than 5000 barrels on a wide-open test. The depth of the new zone is not known, even by Wilshire, and there is a chance that it may not prove as productive as generally believed.

Long Beach made a very poor showing during the first part of the month, but rallied sharply during the last week, drawing up within striking distance of the peak established two months ago. A cluster of small completions, many of which produced a high percentage of water, created an erroneous opinion of the situation. Immediately following these mediocre wells, two of the largest completions of the year reversed the belief that the trend will be downward almost indefinitely. About 185 wells are drilling in all parts of the field, and while the peak seems definitely past, a new high figure could be established with ease. Edge wells on little-developed leases are coming in as large as any during the spring months. The gas pressure is still very high in these areas and Long Beach will be a disturbing factor during a part of 1929

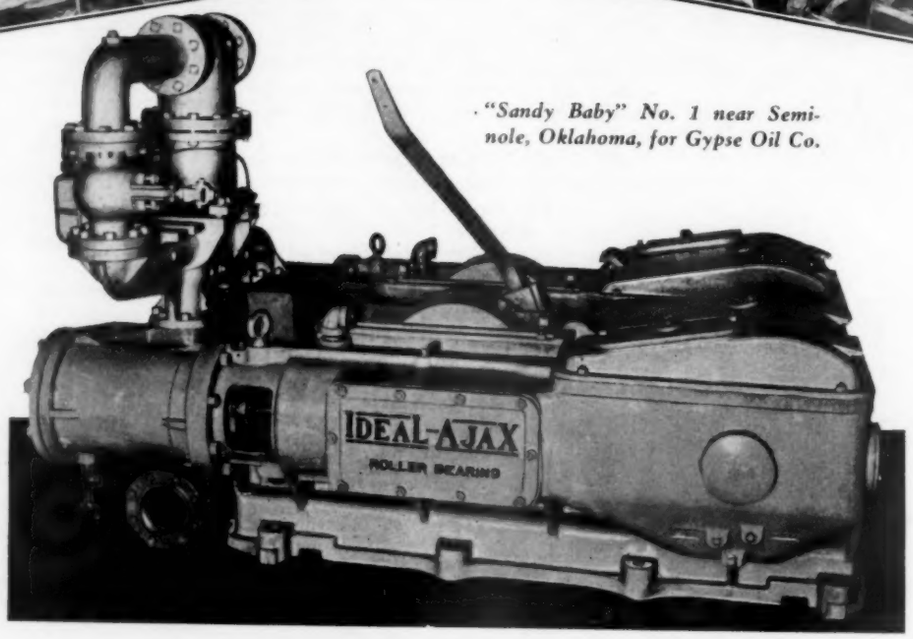
The old Midway-Sunset district is gradually showing increased activity and at the first sign of a decline in the southern fields probably will be extensively drilled. The deep zone, recently discovered on Section 8-32-23, gave a good account of itself during the month. The Union Oil Company completed a good well in the Sunset field by plugging back and reperforating to test an upper sand. This practice may be used on many other wells.

Miscellaneous Kern County fields and wildcat areas took on new life during the month, particularly in the Bakersfield district. Two wells were started in the Fruitvale field, the same number in the Union Avenue district, with other eastern San Joaquin valley fields contributing scattering tests.

Three New Features



"Sandy Baby" No. 1 near Seminole, Oklahoma, for Gypse Oil Co.



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United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September 1	703,800	100,850	623,750	128,600	39,700	86,500	113,000	78,050	629,000	2,503,250	17,522,750
September 8	706,050	100,450	611,500	129,050	39,150	84,350	113,000	74,850	635,800	2,494,200	17,459,400
September 15	726,550	100,100	602,100	126,700	39,100	84,900	112,500	77,350	635,600	2,504,900	17,534,300
Increase	20,500	.....	.....	.....	.....	550	.....	2,500	.....	10,700	74,900
Decrease	.....	350	9,400	2,350	50	.....	500	.....	200	.....	.....

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	Sept. 15	Sept. 8
Carson County	6,650	6,500
Gray County	21,650	22,550
Hutchinson County	32,600	34,500
Wheeler County	800	750
Others	1,100	1,100
Total	62,800	65,400

NORTH TEXAS

Archer County	19,950	19,850
Burkburnett	9,800	9,900
Electra	13,150	13,050
Iowa Park-KMA	3,850	3,950
Montague and Cooke Cos.	10,800	10,900
Wilbarger	31,400	33,000
Others	600	600
Total	89,550	91,250

WEST CENTRAL TEXAS

Brown County	11,800	12,050
Callahan County	3,550	3,600
Coleman County	3,700	3,500
Eastland-Desdemona	6,650	6,600
Jack County	1,650	1,650
Palo Pinto County	400	450
Shackelford County	11,100	10,850
Stephens County	7,150	7,050
Throckmorton County	950	950
Young County	7,900	8,000
Others	650	650
Total	55,500	55,350

WEST TEXAS

Crane-Upton Counties	59,400	58,600
Crockett County	2,600	2,850
Howard County	19,300	15,400
Jones County	4,300	3,200
Mitchell-Scurry Cos.	2,800	2,650
Pecos County	72,700	74,150
Reagan County	18,500	17,000
Winkler County	166,300	174,500
Others	1,400	1,450
Total	347,300	349,800

EAST CENTRAL TEXAS

Anderson-Cherokee Counties	2,050	4,100
Corsicana-Powell	9,900	9,950
Currie	450	450
Mexia	6,550	6,600
Nigger Creek	950	950
Richland	500	550
Wortham	1,550	1,600
Total	21,400	24,200

SOUTHWEST TEXAS

Dale	1,300	1,250
Laredo District	8,500	8,550
Luling	13,650	13,600
Lytton Springs	1,000	1,000
Somerset	700	700
Others	400	400
Total	25,550	25,500
T'tl Tex. (Outside Gulf Coast	602,100	611,500

TEXAS GULF COAST

Barbers Hill	600	600
Batson	1,400	3,000
Big Creek	2,700	1,400
Blue Ridge	7,450	9,300
Boling	1,800	1,800
Damon Mound	650	650
Goose Creek	6,800	6,650
Hull	10,400	10,550
Humble	1,350	1,350
Orange County	3,500	3,500
Pierce Junction	9,300	10,400
Saratoga	1,050	1,000
Sour Lake	3,250	3,250
South Liberty	3,550	3,400
Spindle Top	38,800	37,400
West Columbia	7,600	7,450
Others	5,000	5,400
Total	105,200	107,100
Texas total	707,400	718,600

OKLAHOMA

North Braman	2,900	3,000
South Braman	1,500	1,550
Blackwell	3,600	3,400
Hubbard	2,800	2,800
Thomas	1,200	1,300
Tonkawa	12,300	12,700
Garber	8,200	8,200
Burbank	27,800	28,050
Osage (outside Burbank)	27,000	27,050
Cushing	19,850	19,850
Yale Jennings	7,400	7,400
Davenport	1,850	1,850
Bristow Slick	20,800	20,800
North Okmulgee	14,600	14,650
Lyons Deaner	5,700	5,750
Cromwell	9,150	9,150
Papoose	4,150	4,150
Wewoka	5,750	5,750
Seminole	47,300	48,100
Bowlegs	50,900	52,300
Searight	12,950	12,850
Little River	115,700	101,750
Earlsboro	91,150	93,700
Duncan District	7,650	7,800
Graham	5,250	5,300
Fox	1,650	1,650
Healdton	13,800	14,000
Hewitt	9,500	9,400
Scholem Alechem	15,500	15,000
Pearson	3,050	3,300
St. Louis	103,300	91,300
Allen	21,000	20,150
Others	51,300	42,050
Total	726,550	706,050

CALIFORNIA

Santa Fe Springs	39,000	38,000
Long Beach	200,000	197,500
Huntington Beach	52,000	53,500
Torrance	17,000	17,500
Dominguez	11,000	11,000
Rosecrans	5,500	5,500
Inglewood	29,400	29,000
Midway-Sunset	74,000	74,000
Ventura Avenue	52,000	52,000
Seal Beach	28,000	28,000
Others	127,700	129,800
Total	635,600	635,800

KANSAS

Greenwood County	26,500	26,750
Florence-Covert	1,000	1,000
Peabody-Ebling	3,150	3,150
Eldorado-Towanda	12,700	12,700
Augusta-Fox Bush	3,300	3,300
Rainbow Bend	1,600	1,600
Russell	4,00	3,900
Churchill	9,300	9,050
Oxford	9,550	9,900
Others	29,000	29,100
Total	100,100	100,450

NORTH LOUISIANA

	Sept. 15	Sept. 8
Homer	4,250	4,300
Haynesville	5,800	5,800
Caddo Light	9,250	9,200
Caddo Heavy	3,150	3,100
DeSoto-Red River	3,900	4,000
Elm Grove	550	550
Bellevue	750	800
Cotton Valley Light	650	700
Cotton Valley Heavy	3,650	3,650
Urania	6,600	6,500
Pleasant Hill	550	550
Totals North Louisiana	39,100	39,150

LOUISIANA GULF COAST

Bayou Boullion	650	650
East Hackberry	2,800	3,050
Edgerly	1,050	1,000
Evangeline	1,000	1,050
Lockport	3,400	3,700
Sorrento	1,000	1,000
Sulphur Dome	2,500	2,600
Sweet Lake	4,100	3,900
Vinton	4,300	4,300
Others	700	700
Total Louisiana Gulf Coast	21,500	21,950
Louisiana Total	60,600	61,100

ARKANSAS

El Dorado	5,200	5,200
Champagnolle	12,050	11,150
Smackover Light	7,400	7,400
Smackover Heavy	56,000	56,350
Stephens	1,050	1,000
Nevada	1,200	1,200
Lisbon	1,900	1,950
Others	100	100
Total	84,900	84,350

MOUNTAIN STATES

WYOMING

Salt Creek	37,250	34,850
Grass Creek	2,350	2,450
Elk Basin	1,100	950
Big Muddy	2,600	2,600
Lost Soldier	4,100	4,100
Rock River	2,650	2,650
Lance Creek	550	550
Oregon Basin	4,350	...
Others	3,100	7,600
Total	58,050	55,750

MONTANA

Cat Creek	1,600	1,600
Sunburst	7,800	8,000
Others	150	150
Total	9,550	9,750

COLORADO

Moffats (Craig)	1,500	1,200
Fort Collins	2,250	2,450
Florence	1,100	1,000
Others	2,500	2,400
Total	7,350	7,050

NEW MEXICO

Table Mesa	250	100
Artesia	1,050	1,000
Hogback	500	500
Rattlesnake	500	500
Others	100	200
Totals	2,400	2,300
Totals Mountain States	77,350	74,850

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	112,500	113,000

PRODUCTION SUMMARY

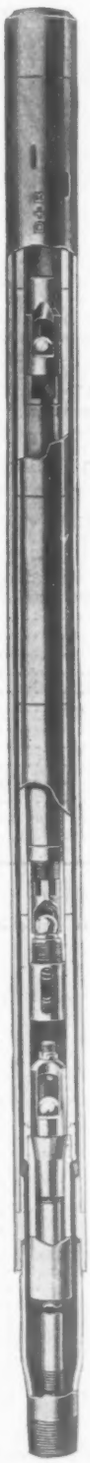
East of Rockies	1,791,950	1,783,550
United States Total	2,504,900	2,494,200

D+B
A Complete Line of Better Pumping Equipment

D+B *Pumps*

(C & W Type)

EMSCO
A Complete Line of Better Oil Well Equipment



Increases production
Stops valve chatter
Decreases emulsion

Patented
No. 1,514,200 Nov. 4, 1924; No. 1,535,651 April 28, 1925

THE gas is separated from the oil as the fluid enters the perforations at the upper end of the outer shell. This separation of gas permits proper functioning of the valves and overcomes frequent replacements of balls and seats.

D&B DIVISION

FIG. 1. *C&W Pump fitted with Thompson Gas Valve for use where there is extremely heavy gas pressure*

Protected by Steel

EMSCO DERRICK *and* EQUIPMENT CO.
Main Office & Plant, Los Angeles, Calif.
New York Office, 810 Westinghouse Bldg., N. Y.
Branches: Houston and Dallas, Texas; Casper, Wyo., Taft, Torrance, Santa Fe Springs, Ventura, Coalinga and Signal Hill

FIG. 2. *C & W Pump fitted with Garbutt Rod for use where there is normal gas pressure*

EMSCO STEEL EQUIPPED WELLS ARE SAFE

CRUDE OIL PRICE QUOTATIONS

CRUDE PRICE CHANGES

Oil City, Ky.—Effective at the opening of the market today Stoll Oil Refining Company advanced the price of Western Kentucky crude 10 cents per barrel making the new price $1.65.

CURRENT POSTINGS

EASTERN STATES

	Sept. 19 1928
Penna Grade Oil in New York Transit Lines (New York)	$3.20
Bradford District Oil in National Transit Lines (Pennsylvania)	3.20
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.10
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.10
Penna Grade Oil in Eureko Pipe Line Lines (Pennsylvania)	3.00
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.85
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (July 13)	1.45
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines (August 8)	1.70
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines (Aug. 8)	1.80
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (July 30)	1.70
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.95
Keister (Pennsylvania)	1.20

CENTRAL STATES

Illinois	1.55
Indiana	1.37
Lima	1.60
Plymouth	1.28
Princeton	1.55
Waterloo	1.35
Wooster	1.67

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren.

All grades	1.65

MID-CONTINENT

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.*

25. to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

*The Texas Company posts a price of 60 cents on 24 to 24.9 gravity, and Gulf's posting begins at 28 to 28.9.

MID-CONTINENT

Magnolia Petroleum Company

Below 25 gravity	.60
25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 29.9 gravity	.75
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.16

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude (Humble Oil and Refining Company)*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

SOUTH TEXAS

Mirando	1.00

SOMERSET

Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

MARKHAM

The Texas Company

All grades	1.00

LULING

All grades	1.00

PANHANDLE

GRAY COUNTY

(Humble Oil and Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.68
29 to 29.9 gravity	.75
30 to 30.9 gravity	.82
31 to 31.9 gravity	.89
32 to 32.9 gravity	.96
33 to 33.9 gravity	1.01
34 to 34.9 gravity	1.06
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.16
37 to 37.9 gravity	1.21
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.31
40 to 40.9 gravity	1.36

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity	Signal Hill	Alamitos Hts Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14.9	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ...	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.86	.85	..	..	.77	.77	.77	.77	.77
21-21.9	.89	.89	.89	.89	.89	..	.89	.89	.88	.89	.88	.89	..	.79	.79	.79	.79	.79
22-22.9	.93	.93	.93	.93	.93	..	.93	.93	.91	.92	.91	.92	..	.82	.82	.82	.82	.82
23-23.9	.97	.97	.97	.97	.97	..	.97	.97	..	.95	.94	.95	..	.86	.86	.86	.85	.85
24-24.9	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.21	1.21	1.21	..	1.21	1.21	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.25	1.25	1.25	..	1.25	1.25	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	1.41	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	1.47	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	1.53	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	1.59	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	1.65	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	1.71	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	1.77	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	1.83	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	1.89	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	1.95	..	..	..	..	..	..	..	.	..	..	..	..

Offer motorists **extra** value with **OPALINE**.. the **extra** service motor oil.....

REG U.S. PAT OFF.

WHEN you become an Authorized Opaline Dealer, you get the exclusive Opaline method for recommending motor oil. This method assures a motorist the right grade of *Opaline to seal the power in his pistons*—that's an *extra* service which Opaline does—that's an *extra* service you give your customers—an *extra* reason why they should keep coming back to you for gas and oil. May we tell you about this common-sense method of selling *precision* in lubrication?

SINCLAIR REFINING COMPANY, INC.

Also Makers of Sinclair Gasoline and H-C Gasoline

45 NASSAU STREET, NEW YORK

Atlanta Boston Chicago Houston Kansas City

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Authorized Dealer

SINCLAIR OPALINE MOTOR OIL

REG. U.S. PAT. OFF.

Seals Power at every Degree of Wear

	Sept. 19 1928
41 to 41.9 gravity	1.41
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.51
44 and above	1.56

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.65
30 to 30.9 gravity	.72
31 to 31.9 gravity	.79
32 to 32.9 gravity	.86
33 to 33.9 gravity	.91
34 to 34.9 gravity	.96
35 to 35.9 gravity	1.01
36 to 36.9 gravity	1.06
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.16
39 to 39.9 gravity	1.21
40 to 40.9 gravity	1.26
41 to 41.9 gravity	1.31
42 to 42.9 gravity	1.36
43 to 43.9 gravity	1.41
.. and above	1.46

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.69
32 to 32.9 gravity	.76
33 to 33.9 gravity	.81
34 to 34.9 gravity	.86
35 to 35.9 gravity	.91
36 to 36.9 gravity	.96
37 to 37.9 gravity	1.01
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.11
40 to 40.9 gravity	1.16
41 to 41.9 gravity	1.21
42 to 42.9 gravity	1.26
43 to 43.9 gravity	1.31
44 and above	1.36

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties and that part of Glasscock not included in the Chalk field. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

(Magnolia Petroleum Company)

Mitchell County	$ .80
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.48
Grass Creek	1.48
Rock Creek	1.33
Lost Soldier	.95
Lance Creek	1.48
Mule Creek	1.10
Notches	.65
Big Muddy	1.33
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	$1.65
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

	Sept. 19 1928
Artesia	1.08
Hogback	1.38

CANADA

Oil Springs	2.07
Petrolia	2.00

NORTH LOUISIANA
(The Texas Company)

24 to 24.9 gravity	.76
25 to 25.9 gravity	.81
26 to 26.9 gravity	.86
27 to 27.9 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76

LOUISIANA-ARKANSAS
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley**
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company).

	Sept. 19 1928
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 gravity and above	1.76

*Shreveport-Eldorado's postings stop at above 40 gravity.

**Below 36 gravity, the posting on Cotton Valley is 75 cents. From 36 to 52 and above the regular gravity schedule is followed.

STEPHENS
(All Companies)

Below 28 gravity	.75
28 to 28.9 gravity	.79
29 to 29.9 gravity	.83
30 to 30.9 gravity	.87
31 to 31.9 gravity	.91
32 gravity and above	.95

SMACKOVER
(All Companies)

Below 24 gravity	.75
24 and above	90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
American Petroleum Institute Figures (Barrels of 42 gallons)

	Total Month August	Total Month July	Week Ended Sept. 8	Week Ended Sept. 1
AT ATLANTIC COAST PORTS—				
Baltimore	563,000	614,000	190,000	68,000
Boston	112,000	90,000	.....	.....
New York	861,000	272,000	.....	76,000
Philadelphia	548,000	633,000	160,000	.....
Others	75,000	76,000	31,000	.....
Total	2,159,000	1,685,000	381,000	144,000
Daily Average	69,645	54,355	54,429	20,571
AT GULF COAST PORTS	25,000	54,000	.....	.....
Daily Average	806	1,741	.....	.....
TOTAL—ATLANTIC AND GULF COAST PORTS	2,184,000	1,739,000	381,000	144,000
Daily Average	70,451	56,096	54,429	20,571
Distribution of Total California Oil Recepits is as follows:				
Crude	112,000	302,000	.....	.....
Gasoline	1,688,000	1,290,000	381,000	144,000
Gas Oil	290,000	71,000	.....	.....
Fuel Oil	.....	76,000	.....	.....
Lubricating	.....	.....	.....	.....
Tops	94,000	.....	.....	.....
Total	2,184,000	1,739,000	381,000	144,000

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS
American Petroleum Institute Figures (Barrels of 42 Gallons)

	Total Month August	Total Month July	Week Ended Sept. 8	Week Ended Sept. 1
AT ATLANTIC COAST PORTS—				
Baltimore	784,000	728,000	309,000	226,000
Boston	506,000	451,000	157,000	*217,000
New York	3,820,000	3,469,000	843,000	836,000
Philadelphia	670,000	1,168,000	274,000	151,000
Others	223,000	665,000	263,000	.....
Total	6,003,900	6,481,000	1,846,000	1,430,000
Daily Average	193,645	209,065	263,714	204,286
AT GULF COAST PORTS—				
Galveston District	.....	290,000	.....	.....
New Orleans & Baton Rouge	1,199,000	775,000	319,000	141,000
Port Arthur and Sabine District	.....	.....	.....	.....
Tampa	19,000	24,000	.....	.....
Total	1,218,000	1,089,000	319,000	141,000
Daily Average	39,290	35,129	45,571	20,143
AT ALL UNITED STATES PORTS—				
Total	7,221,000	7,570,000	2,165,000	1,571,000
Daily Average	232,935	244,194	309,285	224,429

*Revised.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Garden et al, Sluss 3A, nec sw ne, 6-27-6e	500	2735
Empire O. & R. Co., Brandenberger 1B, se nw ne, 22-27-5e	30	2770
Tidal Oil Co., & Mathews, csl sw sw, 31-26-6e	*	2777
CHAUTAUQUA COUNTY—		
Graver et al, Stewart 1, swc, 29-32-10e	*	1593
DICKINSON COUNTY—		
Watchorn O. & G. Co., Reidy 1, nwc, se, 33-16-4e	*	2630
ELK COUNTY—		
Davis & Hazlett, Webb 1, ne sw se, 9-31-10e	*	2090
GREENWOOD COUNTY—		
McGinnis et al, McNall 1, nec sw, 10-25-12e	*	1983
MARION COUNTY—		
Phillips Pet. Co., Harwood 2, nwc sw, 13-17-4e	*	2421
ROOKS COUNTY—		
J. C. Fendeiss et al, Catudal 1, nw se se, 23-10-9w	*	3503
Kreneger et al, Tatkenhorst 1, sec sw, 11-9s-16w	175	3322
SUMNER COUNTY—		
Fred Morgan et al, Mynes 1, swc, 16-35-2e	¶6	3336

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Schermerhorn et al, Lyles 4, sw se nw, 11-2s-3w	110	3584
COTTON COUNTY—		
Cullum & Perkins, Priddy 3, swc nw ne ne, 3-2s-10w	¶1	2195
CREEK COUNTY—		
C. G. Tibbens, Winter 1A, swc se ne, 30-15-9e	¶2	2710
Wallace et al, Layton 3, nec, 3-17-11e	¶2	1967
C. G. Tibbens, Jackson 5, cel ne sw, 4-18-12e	¶1	2080
Tidal Oil Co., Robinson 2, nec nw se, 20-17-7e	140	2797
Tom Kelly et al, Lamons 1, sec ne nw, 13-14-9e	*	3680
C. G. Tibbens, Curtis 1, nec sw, 29-15-9e	*	3703
Kennedy & Horner, Strip 3, swc, 24-18-11e	*	1820
C. H. Lebow, Tiger 9, sec ne nw, 17-17-7e	*	2858
GARVIN COUNTY—		
Magnolia Pet. Co., Cochran 3, sec ne nw, 14-1n-3w	5	1568
GRADY COUNTY—		
Meridian Gas Co., Serrata 3A, sw nw sw, 25-5n-8w	¶20	2450
Okla. Gas Utilities Co., School 2, sw nw nw, 36-5n-8w	¶20	2393
Twin State Oil Co., Cox 3, nec se, 14-4n-8w	¶23	2300
Badgett & Hughes, Tendell 1, nec nw, 23-5n-8w	*	2462
Nichlos & Page, Drake 1, cel se, 7-5n-7w	*	1900
HUGHES COUNTY—		
Catlett & Burke, Greis Oliphant 1, se ne nw, 18-9-9e	90	3196
JEFFERSON COUNTY—		
Beck & Lapham, Seay 2, nwc sw se sw, 35-6s-4w	15	1360
Magnolia Pet. Co., McKenzie 1, ne sw se, 23-6s-6w	*	2645
KAY COUNTY—		
Wilson & Bradshaw, Murdock 1A, sec sw sw, 2-27-3e	4	925
Comar Oil Co., Schmidt 2, swc ne, 31-27-2e	5	2476
Wilson O. & G. Co. et al, Piper 1, nec se, 19-29-1e	20	3413
Tidal Oil Co., Cole 3, c½ se, 18-29-1e	135	3358
Cole 2, c se se, 18-29-1e	¶20	3311
Tonkawa Dev. Co., McDaniels 1, sec, 15-25-1w	*	4956
MARSHALL COUNTY—		
Humble O. & R. Co., Commerce Trust 2, nec sw, 24-5s-5e	*	717

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	7	10	5	..	2	..	..	10	230	...
California	14	38	14	34	..	..	..	4	18,115	31,645
Illinois	2	6	1	2	..	..	1	4	20	75
Indiana	3	8	2	1	..	..	1	7	75	5
Kansas	11	18	3	8	1	1	7	9	705	1,195
Kentucky	29	42	20	31	2	1	7	10	922	771
Louisiana	30	17	3	4	14	3	13	10	1,825	250
Michigan	3	3	2	..	1	3	..	..	115	...
New York	20	..	20	..	..	..	..	..	64	...
Ohio	44	49	13	22	12	19	19	8	422	1,012
Oklahoma	91	102	51	61	15	7	25	34	50,777	97,003
Pennsylvania	71	1	65	..	6	1	..	..	247	...
Texas	142	127	90	77	5	3	47	47	236,563	171,401
West Virginia	14	15	3	4	10	9	1	2	9	21
Total	481	436	292	244	68	47	121	145	310,089	303,378
Increase this week	45	..	48	...	21	..	..	..	6,711	...
Decrease this week	..	..	..	..	..	..	24	..	...	...

Company, Well and Location	Initial Production Bbls.	Depth
Bilbo et al, Chapman 1, ne nw ne, 11-5s-4e	*	340
MUSKOGEE COUNTY—		
Tidal Oil Co., L. Grimmett 14, c e½ sw sw, 5-14-18e	5	1384
Elk Drlg. Co., McGee 1, sec 34-13-17e	*	160
J. D. Garrison, Rector 1, sec ne ne sw, 20-15-17e	*	1640
OKFUSKEE COUNTY—		
Champlin O. & R. Co., Holmes 7, nwc ne ne, 22-11-11e	175	3505
Moose & Daniels, Stidham 1, swc nw, 4-11-10e	*	622
OKMULGEE COUNTY—		
W. B. Pine, Burgess 2, c sw sw, 17-12-13e	¶1	1130
Papoose Oil Co., Brown 12, cel nw sw, 21-15-14e	75	2178
W. B. Pine, Skidmore 2B, sec ne nw, 10-15-14e	10	966
Kirkland & Son, Brooks 3, sec ne sw, 17-15-13e	10	1491
Depriest 1, ne nw, 19-15-13e	*	2779
Noble O. & G. Co., Gay 1, nec nw, 12-15-12e	*	1296
Shaffer O. & R. Co., Roberts 1, sec sw, 1-15-12e	*	1574
OSAGE COUNTY—		
I. T. I. O. Co. 398, nw se se, 29123-9e	¶1	415
Osage Gas Prod., 391, swc ne ne, 32-24-12e	¶1	1029
C. F. Lake et al 1, sec nw	10	2458
Delmar Oil Co. 2, nwc, 22-24-8e	6	2395
Skelton & Moore 5, ne sw sw, 33-26-12e	40	1084
Nath Jones 1, se sw nw, 25-26-8e	6	1827
Knupp Oil Co. 8, sw ne sw, 36-27-11e	15	1598
C. O. Ross 9, sw ne nw, 14-29-11e	5	1044
PAWNEE COUNTY—		
Thompson & Black, Richards 1A, cnl ne nw, 23-20-9e	*	2345
PONTOTOC COUNTY—		
Superior Oil Corp., Maulden 1, ne nw nw, 32-5-5e	195	2559
Homaokla Oil Co., McCall 13, c nw ne, 17-5-8e	375	2543
Alf Tillmen et al, Lowrey 1, nw ne se, 31-5-5e	*	....
POTTAWATOMIE COUNTY—		
Gypsy Oil Co., Bourassa 1, sec ne, 7-8-5e	2100	4123
Indep. O. & G. Co., Deckard 2, se ne ne, 19-7-4e	175	4024
Sinclair O. & G. Co., Blandin 3, nec sw, 24-7-4e	1655	4158
Indep. O. & G. Co., Youts 5, sw se se, 19-7-5e	4849	4338
Magnolia Pet. Co., Ship 4, sec ne, 10-7-5e	63	4175
Gypsy Oil Co., Stahl 1, nw ne ne, 30-7-5e	6702	4355
Phillips Pet. Co., Stahl 2, ne nw ne, 30-7-5e	7457	4184
Sikes, Kilgore & Shaffer, Ives 1, c se se, 12-10-3e	*	5617

Company, Well and Location	Initial Production Bbls.	Depth
SEMINOLE COUNTY—		
Tidal Oil Co., Walker 1, sec, 35-10-5e	2320	4337
Shaffer O. & R. Co., Sango 1, swc, 36-10-5e	832	4332
Gypsy Oil Co., Sango 8, nec se, 1-9-5e	1777	4364
T. B. Slick, James 1, nw se sw, 6-9-6e	¶50	4103
Roxana Pet. Corp. & Papoose Oil Co., Maines 1, nwc sw, 7-8-6e	1006	4381
I. T. I. O. Co., Hull 4, sw nw se, 26-8-6e	872	4183
Blackwell O. & G. Co., Baker 1, sw nw se, 11-7-6e	600	4136
Mid-Continent Pet. Corp., Bruner 2, nw se se, 11-7-6e	2830	4353
Carter Oil Co., Harjo 2, sw nw sw, 13-7-6e	1252	4401
Empire Gas & Fuel Co., Coker 1, sw se sw, 13-7-6e	780	4573
Snowden & McSweeney, Tiger 2, sw nw nw, 13-7-6e	2420	4237
Blackwell O. & G. Co., Talley 1, ne sw sw, 14-7-6e	990	4441
Gypsy Oil Co., Hulhoke 6, se ne se, 14-7-6e	1872	4370
Magnolia Pet. Co., Harjo 2A, nw ne ne, 14-7-6e	650	4134
Indep. O. & G. Co., Williams 2, nec, 15-7-6e	1705	4351
T. B. Slick, Williams 4, se ne se, 15-7-6e	1257	4265
Gypsy Oil Co., Catcha 2, nec sw, 23-7-6e	125	4297
Pure Oil Co., Cotaha 4, nw se ne, 23-7-6e	130	4566
Cal Cul Oil Co., Cynda 1, sw nw sw, 24-5-7e	¶40	2659
Gypsy Oil Co., Peter 9, nw ne nw, 18-5-8e	300	2750
Champlin O. & R. Co., Twee 1, sec ne, 14-7-6e	1562	4354
Reiter-Foster, Bunyard 1, se nw sw, 14-7-6e	2230	4263
Sinclair O. ½ G. Co., Tewee 1, nw sw ne, 14-7-6e	800	4137
Superior Oil Corp., Davis 1, swc se, 3-10-6e	*	4593
I. T. I. O. Co., Riteneur 1, se sw sw, 22-8-5e	*	4637
Sinclair O. & G. Co., Williams 2, ne se se, 15-7-6e	*	4675
Omar Oil Co. & Commercial Pet. Co., Patton 1, nec sw, 31-7-6e	*	1248
STEPHENS COUNTY—		
Medlin et al, Simpson 1, nec sw se, 34-1s-8w	15	1670
Cruce Oil Co., Frensley 1A, sec sw nw nw, 12-1n-6w	*	200
H. Hanbury, Taliaferro 8, ne nw sw, 27-1s-8w	*	....
WAGONER COUNTY—		
Hale Ford Oil Co., Brown 2, nec se nw, 36-16-17e	¶3	857
Minshall et al, Rogers 1, swc ne, 6-19-15e	¶1	1111

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EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Bingham 399, tr 1	3	....
Bingham 499, tr 1	5	....
Bingham 405, tr 1	2	....
Bingham 439, tr 113	5	....
Bingham 439, tr 114	3	....
Bingham 439, tr 115	3	....
Bingham 439, tr 116	2	....
Bingham 570, tr 2	7	....
Bingham 486, tr 1	5	....
Bingham 408, tr 24	3	....
Bingham 408, tr 25	2	....
Redfield 9	7	....
Moody 41	2	....
Zimmer 15,	3	....
Melvin 245	2	....
Melvin 246	2	....
Melvin 247	2	....
Melvin 248	2	....
Jones 252	2	....
Bingham-Satterfield 139	3	....
Brooks 1	2	....
Brooks 2	2	....
Forest Oil Corp., July 33	2	....
July 34	2	....
Tyler 86	2	....
Murphy 42	2	....
Forest Pet. Corp., Drake L 1	2	....
Drake L 2	2	....
Drake L 3	2	....
Forest Pet. Corp. drilled in 36 pressure wells on Drake lease.		
Hazlewood Oil Co., Hazlewood 14	5	....
Hazlewood 15	3	....
No. 22, tr 50	2	....
No. 26, tr 23	2	....
No. 27, tr 143	3	....
Dodge & Hilliard, Hilliard 1	7	....
T. H. Kennedy, Kennedy 6	12	....
L. G. Dana, Taylor 1	5	....
Associated Prod. Co., Bingham 583, tr 1	12	....
C. S. Knabb Co., Griffith 5	7	....
A. J. Van Tine, Vantine 14	7	....
A. Storer, Storer 16	10	....
Phoenix Oil Co., Kennedy 1	7	....
T. B. Wilson, Bingham B 3	3	....
Bingham A 3	7	....
C. T. Byron Est., Bingham 577, tr 1	7	....
Korner Bros., Devlin 1	5	....
T. B. Martin, Borden 1	7	....
BUTLER COUNTY—		
M. W. Graham & Co., Campbell 13	3	....
J. B. Lowery, Lowery 3	2	....
Donaldson & Co., Gibson 1	2	....
Russell & Co., Harper 3	2	....
VENANGO COUNTY—		
Ladd & Cobb, Danna 3	3	....
R. A. Hughes, Hughes 68	2	....
Hughes 69	2	....
Sigworth Bros., Glass 1	¶½	....
Plum O. & G. Co., Matthews 4	3	....
Moyer Bros., Moyer 103	2	....
Moyer 104	2	....
J. E. Keverline, Schwab 1	5	....
GREENE COUNTY—		
Greensboro Gas Co., Long 1	¶1¼	....
McCall Bros., Chambers 2	¶1½	....
WASHINGTON COUNTY—		
R. L. Connell, Connell 1	5	....
CENTER-MIDDLE FIELD—		
Titusville Trust Co., Jennings 9	4	....
E. Pequignot, King 17	2	....
D. T. Jones, Struther 1	2	....
Crown Central Oil Co., Irvine 37	2	....
CLARION COUNTY—		
Sigworth Bros. & Co., Meehan 2	¶1	....
Moyer & Co., Graff 1	¶1	....
Alum Rock Gas Co., Knight 1	¶1	....
Whitling & Co., Exley 2	7	....
Kohler & Co., Kohler 7	2	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
SENECA COUNTY—		
Muncy Valley O. & G. Co., Kimmit 8	200	1391
Sun Oil Co., Betts 1	*	1682
H. Pankhurst & Co., Gedeltig 1	*	1752
Haubert & Huffman, Kimmitt 1	*	1454
DARKE COUNTY—		
T. G. Ayres, Koenig 1	30	1268
Cole O. & G. Co., Fullenkamp 1	10	1265
ALLEN COUNTY—		
B. L. Carman & Co., Hall 4	15	1413

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
VIGO COUNTY—		
Siosi Oil Corp., Riggs 13	50	2194
PIKE COUNTY—		
H. G. Darby & Co., Kime 1	25	1335
SULLIVAN COUNTY—		
Ohio Oil Co., Hopewell 3	*	2428

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
WABASH COUNTY—		
Adams Corner Oil Co., Leek 1	20	1479
Couch Bros. & Co., Ridgley 1	*	1840

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
MUSKEGON COUNTY—		
Citizens Pet. Co., Nichols 1	¶8½	2040
Muskegon Dev. Co., Hartman 3	75	1680
Muskegon Oil Corp., Heinz 2	40	1682

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
CABELL COUNTY—		
West Va. Gas Corp., Morrison 16	¶¼	....
Niveley 15	¶¼	....
United Fuel Gas Co., Swann 1	¶½	....
WETZEL COUNTY—		
Manufacturers Light & Heat Co., Gutcher 2	5	....
WIRT COUNTY—		
Roberts Bros., Rathbone tr 162	2	....
HARRISON COUNTY—		
Clarksburg Light & Heat Co., Morris 1	2	....
PUTNAM COUNTY—		
Kuhn O. & G. Co., Meadows 1	¶¼	....
CLAY COUNTY—		
Big Laurel O. & G. Co., Boman 2	¶¼	....
WOOD COUNTY—		
Crane & Co., Beane 1	¶½	....
CALHOUN COUNTY—		
F. F. McIntosh, Church 1	¶¼	....
KANAWHA COUNTY—		
United Fuel Gas Co., Littlepage 1	¶½	....
RITCHIE COUNTY—		
W. A. Bickerstaff, Wright 1	¶¼	....
ROANE COUNTY—		
United Fuel Gas Co., Keene 1	¶¼	....
PLEASANTS COUNTY—		
L. P. Biekel & Son, Pummell 6	*	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
FLOYD-KNOTT COUNTIES—		
United Carbon Black Co., Gearheart 1	¶2	....
ESTILL COUNTY—		
Superior Oil Corp., West & Co. 17	2	....
Tyree 22	2	....
Wallace 1	*	....
McLEAN COUNTY—		
Mecca Oil Co., England 1	15	....
DAVIESS COUNTY—		
Smith Randolph & Co., Wells 2	160	....
Wade & Moore, Baird 1	60	....
Pet. Dev. Co., Burns 1	75	....
L. C. Young, Bob Sands 3	18	....
McMahan & Coombs, Jones 4	50	....
Pratt Bros., Robers Hrs 2	30	....
Cy T. Johnson, Petrie 4	20	....
Eastern Gulf Oil Co., Dunn 1	*	....
D. T. Bolling & Co., Miller-Aud 3	*	....
OHIO COUNTY—		
H. B. Cameron & Co., Farmer 1	20	675
Farmer 2	*	703
Farmer 3	20	703
Farmer 4	50	645
James C. Ellis, Weller 31	75	....
Weller 32	75	....
Keith 7	80	....
Daniels 13	100	....
J. M. Meredith & Co., Kelley hrs 4	20	460
Kelly hrs 5	30	450
White Plains O. & G. Co., Kelly 5	20	463
Fred Weir & Co., Ripple 1	¶1	....
Hammerhill & Co., Near Arnold 1	*	....
Dr. Lang & Co., Boswell 1	*	....
Bigler & Baker, Hendricks 2	*	....

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
Irving Brineger & Co., Bowersock 2	*	....
Hilltop Oil & Gas Co., Cochran 1	?	....
McKay Oil & Gas Co., McKay 6	1	....
H. H. Henning & Co., Huntsman 5	*	....
Hess Bros., Ewland 1	*	....
MORGAN COUNTY—		
Ohio Oil Co., Curranm 1	*	1481
Bowman O. & G. Co., Porter 1	¶¼	....
G. W. McLaughlin, Fitch 21	*	170
Lang & Co., Hillman 2	*	1631
NOBLE COUNTY—		
Berry & Rich, McLaughlin 2	5	1619
Crock & Nau, Crock 6	¶¼	757
Hendershot & Co., Stephens 9	*	1047

NEW YORK

Company, Well and Location—	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
Bolivar State Bank, Reid 24	5	....
Ariza & Dermitt, Dermitt & Co. 2	4	....
C. H. Lavans & Co., Lavans 5	7	....
Bradley Oil Corp., Bradley 20	3	....
Bradley 21	5	....
W. L. Dunning, Dunning 1	4	....
F. J. Wilson, Cass 2	4	....
N. V. V. Franchot, Herrick & Co. 4	4	....
South Penn Oil Co., Chipmunk 1	2	....
Chipmunk 2	2	....
LeSuer Oil Corp., LeSuer 32	2	....
LeSuer 33	2	....
LeSuer 34	3	....
LeSuer 35	3	....
Martin Bros., Martin 1	3	....
Forest Oil Corp., July 28	2	....
July 40	2	....
July 43	2	....
July 45	2	....
Homestead Oil Corp., Homestead 1	3	....

CENTRAL OHIO

GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Wynn 1	¶1	....
Black, Watson & Co., Wills 1	*	1176
George Jewell & Co., Oldham 1	*	....
C. E. Miller & Co., Pryor 3	*	....
Keith Bros., McFadden 1	20	....
PERRY COUNTY—		
Ohio Oil Co., Hinkle 1	*	3694
Hope Construction & Ref. Co., McCline 3	40	3553
Hilliard & Mirin, Baker 1	20	....
SUMMITT COUNTY—		
F. A. Brendall & Co., Hose 1	¶½	....
Link 1	¶1½	....
Snyder 1	¶½	....
ATHENS COUNTY—		
Gross & Co., Athens State Hospital 8	2	1187
Ohio Fuel Gas Co., Elliott 2	¶¼	1479
Wehrle Oil & Gas Co., Mansfield 1	*	1634
ASHLAND COUNTY—		
Logan Gas Co., Calhoun 2	*	....
The Kemrow Co., Hawk 2	¶½	....
Ringler & Co., Braden 1	*	....
JACKSON COUNTY—		
Ohio Fuel Gas Co., Ida Jones 1	¶1¼	2584
Edith Jones 1	¶1¼	2532
WAYNE COUNTY—		
Johnson & Stolz, Walsh 1	*	....
Logan Gas Co., Tschantz 1	*	....
MUSKINGUM COUNTY—		
Pure Oil Co., Montgomery 1	50	....
KNOX COUNTY—		
Preston Oil Co., Rine 1	27	....
HOCKING COUNTY—		
Gordon Oil Co., Bremmer 1	¶1	2891
LICKING COUNTY—		
Rugg & Egan, Boyd 2	¶¼	760

NORTH LOUISIANA

BOSSIER PARISH—		
Bruten et al, Allbritton & Douglass 1, 1-22-14	*	2874
CADDO PARISH—		
Tubbs et al, Hines 1, 16-14-16	*	2730
Magnolia Pet. Co., J. M. Bryson 2, 8-17-16	¶3	972
DE SOTO PARISH—		
La. Public Utilities Co., Clanton 1, 14-12-12	*	1055
MOREHOUSE PARISH—		
Texas Co., Huff 1, 36-23-7	*	3347
Gulf Ref. Co., Chess Wymond 1, 7-18-16	*	3445
J. S. Harkness, Bowles 4, 18-20-5e	¶4½	2197
SABINE PARISH—		
R. L. Gay, Mansfield Hardwood Lbr. Co. 1, 15-7-14	*	3611
Zwolle O. & G. Co., Bowman-Hicks 7, 14-7-14w	*	4008
RICHLAND PARISH—		
Northern La. Gas Co., McCoy B-2, 17-16-6e	¶24	2436
UNION PARISH—		
Carter & Wingfield, Security Trust 1, 6-23-1e	*	2365
Nat. Gas & Prod. Co., G. W. Hale 1, 5-21-4e	¶5½	2167
WEBSTER PARISH—		
La. Oil Ref. Corp., Crichton 2, 21-21-10	¶½	4701
Virgil Helm, Mitchell 1, 32-23-9	¶2	2705

ARKANSAS

Company, well and Location	Initial Production Bbls.	Depth
NEVADA COUNTY—		
Humble O. & R. Co., Groves C-4, 1-14-21	40	1132
UNION COUNTY—		
E. C. Johnson, trustee, E. F. Gregory 1, 10-17-14	¶1-5	3263
Lion O. & R. Co., Sinclair 3, 16-17-14,	¶15	2840
Marr & Hoosier, Slade 3, 3-17-14	60	3232
Oil Well Corp., Slade 1, 3-17-14	100	3246
Sun Co., Schmidt 1, 16-17-14	¶15	2783
Little Fay Oil Co., Primm 1, 24-15-16	25	2037

CALIFORNIA

ATHENS-ROSECRANS—		
Barnsdall Oil Co., Rosecrans 5, wo	540	5125
O'Dea 9, wo	175	4200
BELRIDGE—		
Ohio Oil Co., No. 17, 30-28-21	100	693
COALINGA—		
Bullion Mining Co., No. 1, 20-19-15	50	780
HUNTINGTON BEACH—		
P. Campbell, No. 2	100	2260
INGLEWOOD—		
Standard Oil Co., Investment 57, wo	550	2677
LONG BEACH—		
Richfield Oil Co., Meader 1	6700	6735
R. C. 8	2800	6758
Texas Co., Harlow-Kent 10	2700	7275
RINCON—		
Chanslor-Canfield Midway Oil Co. B-3	900	4030
ROUND MOUNTAIN—		
Shell Co., Freeman 1, 20-28-29	300	1925
VENTURA—		
Shell Co., Edison 23	500	6850
Gosnell 11, wo	800	7065
Gosnell 26	1900	7195

SOUTH LOUISIANA

EDGERLY—		
Rex Pet Co Hunter 7, wo	*	4090
LOCKPORT—		
Vacuum-Gulf, Miller 6, wo	75	4420
Bayou D' Inde State 1, wo	150	5590

TEXAS GULF COAST

BATSON—		
Gulf, Knight Fee 17	10	475
Paraffine Oil Co., Paraffine 77	3	630
BLUE RIDGE—		
Gulf Prod. Co., Bassett Blakely B-14	980	3990
Bowden Oil Co., Overly 3	*	3150
BOLING—		
Gulf, Bay 4	gas and 10	3825
Weed-Gayle Oil Co., Bay 25	200	425
HULL—		
Gulf Prod. Co., Phoenix Dev. Co. 89, wo	350	3625
Republic Prod. Co., Dolbear 107, wo.	2500	2890
GOOSE CREEK—		
Humble, Gaillard 25 ac. No. 24, wo.	50	1860
ORANGE—		
Brownie-Babbett Oil Co., McLean 6, wo	40	3450
PIERCE JUNCTION—		
Gulf, E. R. Taylor et al 25	*	5860
Rio Bravo Oil Co., G. H. & S. A. 2, wo	*	4430
Moody Corp., Hume 3, wo	100	4500
Settegast B-3	*	5440
SARATOGA—		
Weldon Oil Co., Kirby 7	25	715
SOUTH LIBERTY—		
The Sun Co., Mitchell 7	90	3480

TEXAS PANHANDLE

GRAY COUNTY—		
Prairie O. & G. Co., A. Thut 1	425	2748
A. Thut 2	1150	2572
The Texas Co., Shaw 1	¶109	2560
HUTCHINSON COUNTY—		
Dixon Creek Oil Co., Smith 3	50	2988
McKinney Gas Co., F. P. Works 1	¶45	3203
MOORE COUNTY—		
Amarillo Oil Co., J. T. Sneed 1	¶25	3305

NORTH TEXAS

ARCHER COUNTY—		
American Refining Properties, Ward 1	*	1128
Turbeville 15	10	1493
Arco Oil Co., Perkins 9	20	1025
Brown & Lickey, Dempsey 1	*	1825
Humble O. & R. Co., Logan 1-E	*	1250
Stump & Hines, Wallace 4	40	1012
The Texas Co., Hayter 3	130	1428
Richardson 16	85	1308
Magnolia Pet. Co., N. D. Goldsmith 15	20	1363
CLAY COUNTY—		
Hamilton et al, Wade 1	†	1028
ELECTRA—		
Empire Holding Corp., Ancell 5	20	1730
Ancell 6	100	1740
W. H. Hammon et al, McCarty 4-C	25	1354
Harry Hines et al, Waggoner 5	90	1394
Texas Co. et al, Waggoner Bros. 5	25	1816
JACK COUNTY—		
Buttram Pet. Corp., Cullers 2	20	2087
K-M-A AND IOWA PARK—		
Hammon & Garrett, Terhune 2	25	1153
Magnolia Pet. Co., Lula Pace 2	20	1061
Pet. Prod. Co. & Comac Oil Co., Bishop 1	25	1788
THROCKMORTON COUNTY—		
Holder et al, Titus 1	25	609
WILBARGER COUNTY—		
Baker et al, Waggoner 3-B	350	1892
Bass & Dillard Waggoner 3	95	1873
Waggoner 4	50	1865
Consolidated Oil Co., Waggoner 2-C	*	1909
Waggoner 1-E	*	2507
Fain-McGaha Oil Corp., Waggoner 9-S	1000	2422
Waggoner 11-S	2000	2425
Waggoner 1-X	*	1947
Humble O. & R. Co., Waggoner 11-N	†	2482
E. B. Lawson et al, Waggoner 13-B	60	1846
Phillips Pet. Co., Dorothy-Waggoner 1	*	2401
Waggoner 4-MM	15	2336
Waggoner Ref. Co., Waggoner 8-E	300	2308
Waggoner 8-H	1200	2425
YOUNG COUNTY—		
Cunningham et al, Johnson 3	*	530
Ford et al, Johnson 1	*	535
Johnston et al, Garvey 1-D	*	865
Kleiner et al, Langston 19	15	592
Langston 20	15	580
Mook-Texas Oil Co., Davis 6	50	562
Painter & Coleman, Belknap 1	*	901
Peckham et al, Willett 1	*	654
Pennell Oil Co., Johnson 5-C	*	598
Pitzer & West, Callahan 1	*	2255
Prairie O. & G. Co., Kunkel 3	95	1140
Riggs et al, McKinley 13	15	592
Stafford et al, Stewart 1	*	580
T. P. Coal & Oil Co., Donnell 5	50	3392
Tidal Oil Co., Garrett 2	*	603

CENTRAL WEST TEXAS

BROWN COUNTY—		
Anna Belle Oil Co., Hickman 8	170	1250
Amerada Pet. Corp., Wise 1	*	930
Baker & Hodge, Eubanks 1-B	*	1255
Caudle & Flint, Copeland 1	*	2460
Cranfill & Reynolds, Eubanks 12	40	1250
Forest Oil Corp., Graham 1	*	1885
Gutzman et al, Stanley 7	10	435
Hammon & Garrett, Curry 4	*	1099
Hart et al, Hart-Roth 1	*	1231
Humble, Kilgore 6-A	3	1132
Kone Prod. Co., Hickman 15	100	1250
Dr. Lloyd et al, Collier 3	10	435
Collier 5	12	424
Mid-West Explo. Co., George 3	*	1375
COLEMAN COUNTY—		
Continental Oil Co. et al, Overall 7	*	2633
Continental-Atlantic et al, Hinds 1	*	2165
Eastland Oil Co. et al, Morris 2-B	*	2660
Dunigan & McReady, Rice 1	15	1166
Mid-Sun Oil Corp., Overall 1	*	2376
Magnolia Pet. Co., J. P. Morris 20	*	2500
COMANCHE COUNTY—		
Texas-Fidelity Oil Corp., Anglin 1	*	3006
EASTLAND COUNTY—		
Chestnut-Smith Corp., Rankin 1	*	1610
Harbin et al, Coon 1	15	1283
Russell et al, Duncan 1	*	1733
Root et al, Hart 1	130	3436
PALO PINTO COUNTY—		
Gordon & Gholson, Watson 1	¶1½	4290
SHACKELFORD COUNTY—		
Hope Pet. Co., Davis 11	*	1520
Mid-West Explo. Co., Matthews 1	15	1175
Roeser-Pendleton, Inc., & Ma land, Cook 30-C (Sec. 60)	200	1202
Cook 32-C (Sec. 60)	40	1178
Cook 34-C (Sec. 60)	40	1188
STEPHENS COUNTY—		
Hagaman Ref. Corp., Hagaman 1	*	3654

(Continued on page 74)

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Sept. 15	Previous week	Total this month	Total this year	This week last year	This month 1927	Total same date 1927	Year total 1927
Arkansas	5	..	10	273	4	17	266	329
California	37	124	161	839	13	54	947	1,226
Louisiana	14	8	27	496	21	49	520	812
Kansas	11	17	54	755	10	45	722	972
Oklahoma	69	79	203	2,575	44	183	2,989	3,702
Texas	172	141	486	5,694	177	404	6,919	8,665
Mountain States	..	..	..	..	..	22	362	494
Total	308	369	941	10,636	269	774	12,725	16,149

LOUISIANA

ACADIA PARISH—Jennings Pet. Co., Beaumont, Eunice-Crowley 2, 42, 9s, 2w, 375 ft s & 250 ft w of ne c. E. F. Simms, Houston, Jules Clement 2, 46, 9s, 2w, 65 ft e & 48 ft n of sw c; Jennings Oil Co. 1, 46, 9s, 2w, 1032 ft n & 230 ft e of sw c.

CALCASIEU PARISH—Gulf Refg. Co. of La., Houston, Industrial Lbr. Co. 12, 19, 9s, 12w, apprx. 822 ft w & 100 ft s of ne ca se; Lutcher & Moore 11, 19, 9s, 12w, apprx. 1270 ft w & 885 ft n of se c ne. Vinton Pet. Co., Orange, Gray-Rescue 13, Ac. 8, 33, 10s, 12w, 150 ft s & 160 ft we of ne c nw se.

CAMERON PARISH—Calcasieu Oil Co., Inc.,, Magnolia Pet. Co. & The Union Sulphur Co., Doiron 4, 37, 12s, 10w, 3384 ft w & 1420 ft s of se c Sec. 13-12s-10w, in Sec. 37-2s-10w; Valery 3, 36, 12s, 10w, 2037 ft w & 832 ft s of se c Sec. 13--12s-10w, in Sec. 36.

IBERIA PARISH—Gulf Refg. Co. of La., Houston, LaState Z-6, 11s, 8e, 3700 ft e & 53.8 ft s of center of Sec. 26-11s-8e, in Lake Fausse Pointe.

LA SALLE PARISH—T. G. Randle, Trustee, Urania, Hardtner-Edenborn-Collins 1, 12, 10n, 1e, 100 ft s & 100 ft w of ne c ne ne.

MADISON PARISH—Ruston Drilling Co., Ruston, E. Sondheimer 1, 14, 18n, 11w, 1980 ft e & 660 ft s of nw c.

OUACHITA PARISH—Magnolia Pet Co., Shreveport, La., Millsaps 3, 36, 20n, 4e, 660 ft n & 624 ft e of Center. Ouachita Natl. Gas Co., Monroe, D'Arbonne Lbr. Co. 2-B, 25, 19n, 2e, 660 ft w of se c of Sec.

TERREBONNE PARISH — Southern Gas Co., Inc., Houma, Peoples Sugar Co. 1, 104, 17s, 17e, n 89° 06' w 12032.5 ft. from ne c.

ARKANSAS

NEVADA COUNTY—Humble O. & R. Co.'s E. W. Grove A-5, 1520 ft n and 1120 ft e sw cor 1-14-21; E. W. Grove A-6, 1980 ft n, 660 ft e sw cor 1-14-21; E. W. Grove C-5, 660 ft s and 660 ft w center 1-14-21.

UNION COUNTY—Marine Oil Co.'s Sample Co. 1, ne nw 6-17-13.

CHICOT COUNTY—Estate of S. S. Hunter (S. D. Hunter), Sawyer 1, nw ne 19-18-2.

OKLAHOMA

CADDO COUNTY—Caddo Oil Co., McKenna 2, swc nw sw, 4-5n-9w.

COTTON COUNTY—Cullum & Perkins, Priddy 4, nec se se ne, 3-2c-10w.

CREEK COUNTY—Atlantic Oil Prod. Co., Scott 2, swc ne nw, 23-15-10e. O. M. Irelan et al, c nw se, 11-17-10e. Magnolia Pet. Co., Emarthla 3, nw ne sw, 5-16-8e. Shaffer O. & R. Co., Tiger 18, nwc se nw, 17-17-7e. C. H. Lebow, Tiger 16, swc ne nw, 17-17-7e.

GRADY COUNTY—J. B. Nichlos, Williams 1, nec sw, 26-4n-8w. Okla. Gas Utilities Co., Farwell 13, se nw sw, 26-5n-8w.

KAY COUNTY—Burham & Pochelle, swc ne ne, 7-27-2e.

LINCOLN COUNTY—Kingwood Oil Co., Jennings 1, swc, 10-12-6e.

MARSHALL COUNTY—E. L. Smith Oil Co., Hull 5, nec se se nw, 24-5s-5e.

McINTOSH COUNTY—J. E. Weible, Bruner 2, cnl s½ se sw, 25-11-16e.

MUSKOGEE COUNTY—C. Allred et al, Monday 1A, nwc se sw, 4-13-16e. Grubbs & Young, Friday 2, swc nw, 8-15-15e. W. J. Metzger, Francis 3, nec sw sw, 1-14-18e.

OKFUSKEE COUNTY—Tidal Oil Co., King 1, nw sw sw, 14-10-8e. Atlantic Oil Prod. Co., Simmer 3, nec se ne se, 11-10-11e. Champlin O. & R. Co., Jacobs 12, nwc se se, 15-11-11e; Jacobs 11, swc se se, 15-11-11e. Pure Oil Co., Jimboy 1, c nw nw, 25-11-10e.

OKMULGEE COUNTY—J. A. Swindler, Scott 7, c se se, 36-15-14e. H. L. Jolly, Serrell 1, sec sw, 33-15-14e. Noble O. & G. Co., Replogle 1, nec sw ne, 12-15-12e. Iron Mountain Oil Co., Marshall 1, nw se sw, 8-15-12e. J. P. Flanigan, Brown 1, sec, 25-16-11e.

OSAGE COUNTY—Stoner Bros. 3, cs½ n½ nw, 31-24-9e. 1. T. I. O. Co., 399, sw nw sw, 28-23-9e; 400, nec sw sw, nw, 5-24-9e; 337, nec se se se, 35-25-11e; 401, nw se se, 22-27-11e.

PONTOTOC COUNTY—Texas Pacific Coal & Oil Co., Hutcheson 3, sec, 19-5-8e. Roxana Pet. Corp., Smith 1, nwc sw, 20-4-4e. Henry & Hunter, Smith 1, swc nw, 31-4-7e.

POTTAWATOMIE COUNTY—Gypsy Oil Co., Hunick 2, cwl sw se, 5-9-5e. Indep. O. & G. Co. et al, Alfrey 1, swc ne, 7-9-5e. Mid-Continent Pet. Corp., Roger 1, sec sw, 5-9-5e. Magnolia Pet. Co., Singletary 3, sw se sw, 14-7-4e. Panther Oil Co., Townsite 3, se sw sw, 14-7-4e. McCullough, Smith 3, sw nw se, 25-7-4e; Bruno 6, nw se ne, 25-7-4e; Smith 4, nw sw se, 25-7-4e. Phillips Pet. Co., Cherry 3, sw ne ne, 25-7-4e. Pure Oil Co., Thomas 2, cnl ne ne, 26-7-4e. Sinclair O. & G. Co., Nadash 3, nw sw nw, 29-7-5e. Gypsy Oil Co., Saahl 4, sw ne ne, 3017-5e; Stahl 5, se ne ne, 30-7-5e; Stahl 6, nw se ne, 30-7-6e; Stahl 7, ne se ne, 30-7-5e. Shaffer O. & R. Co., Tolon 1, ne se sw, 30-7-5e.

SEMINOLE COUNTY—T. B. Slick, James 1A, nw se sw, 6-9-6e; James 2, ne se sw, 6-9-6e. Magnolia Pet. Co., Rhodes 7, se nw se, 12-8-6e; Reed 1, sec, 31-8-7e. Empire O. & R. Co., Harjo 1, se nw se, 17-7-6e. Carter Oil Co., Larney 3, ne nw nw, 24-7-6e. Sinclair O. & G. Co., Culley 2, nwc, 13-5-7e. Gypsy Oil Co., Warledo 1, se nw ne, 21-10-7e. Sinclair O. & G. Co., Peter 2, ne nw nw, 18-5-8e.

STEPHENS COUNTY—Winkler & McQueen, Heiser 1, nec nw sw, 31-1n-8w. Elliott et al, Indian 1, nwc se, 11-1s-9w. Petroleum Producers Corp., Leonard 1A, swc ne ne, 6-1s-8w. Fort Ring Oil Co. & Sykes, Taliferro 4, cnl se se, 28-1s-8w. Humble O. & R. Co., Rucktashel 1, se ne ne, 11-1s-4w. Westheimer et al, Martin 1, sec, 11-1s-4w. Magnolia Pet. Co., Green 1, swc ne, 13-1s-4w.

TULSA COUNTY—E. H. Cornelius et al, Company 1, sec ne sw, 32-19-12e.

WAGONER COUNTY—E. R. Minshall et al, Naver 1, nec sw, 6-19-15e. Elk Drlg. Co., Childers 4, cwl nw, 22-18-17e.

BUTLER COUNTY—Dixie Oil Co., Marshall 4, ne sw nw, 10-27-6e. Garden et al, Sluss 5A, cwl sw ne, 6-27-6e. Maxwell Oil Co., Maxwell 3, nwc se, 31-24-4e.

ELK COUNTY—G. S. Ingling, Cook 1, sw nw nw, 10-31-10e. Tory & Murfin, Harris 1, ne sw sw, 10-31-10e.

GREENWOOD COUNTY—McGinnis et al, Robbins 1, nec nw, 16-24-9e. Syndicate & Phillips Pet. Co., Edwards 1, nwc ne, 35-23-11e. Empire O. & R. Co., Ott 11A, se nw nw, 25-22-12e.

MARION COUNTY—Madison & Hoffman, Kasha 1, nwc ne, 9-17-4e.

WOODSON COUNTY—Underwood & Patterson, Simpson 1, sec sw, 35-23-14e. Young et al, Opperman 1, swc ne, 27-23-14e.

CALIFORNIA

BELRIDGE—The Ohio Oil Co., No. 18, 30-28-21.

DOMINGUEZ—Union Oil Co., Callender 25, 33-3-13.

HUNTINGTON BEACH—Sextette Oil Co., No. 1, 10-6-11. Commonwealth Oil Co., No. 4, 10-6-11.

KERN COUNTY—Standard Oil Co., No. 6, 35-11-22. Milham Exploration Co., Wisnom 1, 27-28-23. Pacific Eastern Prod. Co., Lahore 1, 21-29-27.

LONG BEACH—Chicksan Oil Co., Clark 2, 24-4-13. Shell Co., Cresson-Community 13, 19-4-12; Patton-Wilson 8, 29-4-12. D'Angelo Oil Co., No. 4, 19-4-12. Rio Grande Oil Co., B-11, 28-4-12. Bolsa Chica Oil Co., Combs 2-A, 30-4-12. Chicksan Oil Co., B-R-1-A, 24-4-13. A. T. Jergins Trust, No. 24, 19-4-12; No. 25, 19-4-12.

MT. POSO — Petroleum Securities Co., Glide 3, 21-27-28.

ORANGE COUNTY—Continental Oil Co., McNally 1, 10-3-11.

SANTA FE SPRINGS—Ambassador Pet. Co., S. F. 12, 5-3-11; S. F. 13, 5-3-11. Bandini Pet. Co., Off 8, 5-3-11. General Pet. Corp., Santa Fe Community 179-E, 6-3-11. Universal Consolidated Oil Co., Blanchard 9, 6-3-11; O'Donnell 3, 5-3-11. Wilshire Oil Co., Wilshire-Petersen 1-A, 6-3-11; Wilshire-Petersen 2-A, 6-3-11. Union Oil Co., Alexander 15, 6-3-11; Bell 36, 6-3-11; Bell 37, 6-3-11; Bell 38, 6-3-11. Shell Co., Slusher 14, 6-3-11. Associated Oil Co., Dalugge 7, 31-2-11. Union Oil Co., Howard 11, 31-2-11.

VENTURA—Petroleum Securities Co., Orton 12, 28-3-23. Shell Co., Taylor 30, 28-3-23.

VENTURA COUNTY—Standard Oil Co., Saticoy-Citrus 5, 15-2-22. Shell Co., Diedrick 1, 35-2-22.

TEXAS

ARCHER COUNTY—Magnolia Pet. Co., Dallas, Goldsmith 16, B.B.B.&C. sur, 375 ft of No. 9. Gulf Prod. Co., Fort Worth, Harter A-4, 2409, T.E.&L. sur. American Ref. Properties, Wichita Falls, Ward 1, J. Tumlinson sur, 1810 ft from e & 747 ft from s line.

AUSTIN COUNTY — Humble, Houston, Kearns 1, W. C. White, 1350 ft from s & 700 ft from e line.

BROWN COUNTY—De Lange & McKaque, Petroleum Bldg., Fort Worth, Debusk 1, W. W. Newton sur, 150 ft w of center of e line. Mack T. Anderson, Rising Star, Williams 1, No. 135, E. Pruitt, nw corner. H. H. Holdeman, Fort Worth, McClanahan 1, S. 791, W. English sur, 150 ft from s&e lines. E. M. Curry, Rising Star, Kilgore 1, S. 153, N. B. Mitchell sur, 150 ft from e & 1050 ft from n line. Rowan & Tong, San Antonio, Jones 1, S. 33, J. H. Cross sur, 150 ft from w & 1025 ft from s line. G. P. Mitcham, Cisco, Keeler 1, J. Kinney sur, 450 ft from n & 150 ft from e line. Texas Fidelity Oil Corp., Fort Worth, Butler 1, No. 783, T. Benson sur, 150 ft from s&w lines. Cranfill & Raynolds, Cisco, Graham 2, B. 7, J. Brown sur, 662 ft from w & 150 ft from s line. Kone Prod. Co., Cisco, Hickman B16, No. 783, T. Benson sur, 150 ft from n & 1350 ft from w line. W. H. Hammon et al, Wichita Falls, Curry 5, No. 624, J. Kinney sur, North of No. 3.

BASTROP COUNTY—Jno. S. Storey, Lock-

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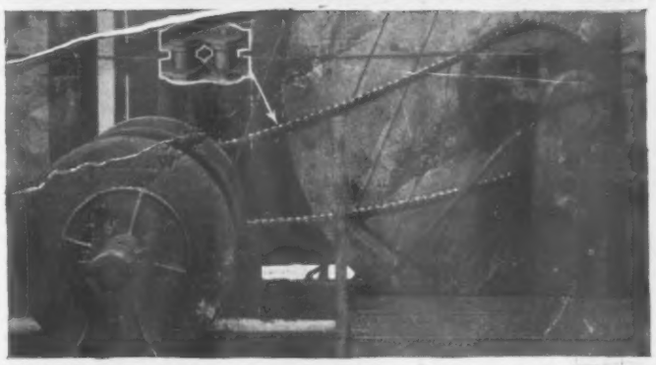

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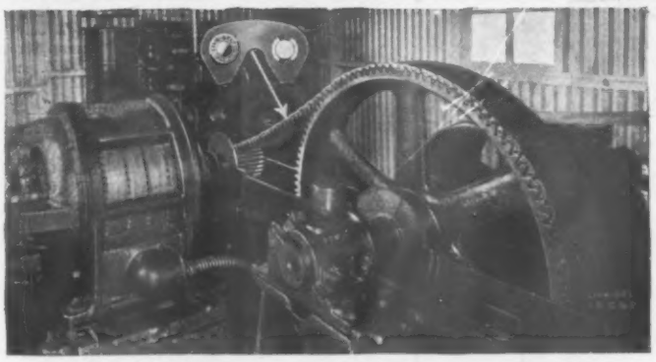

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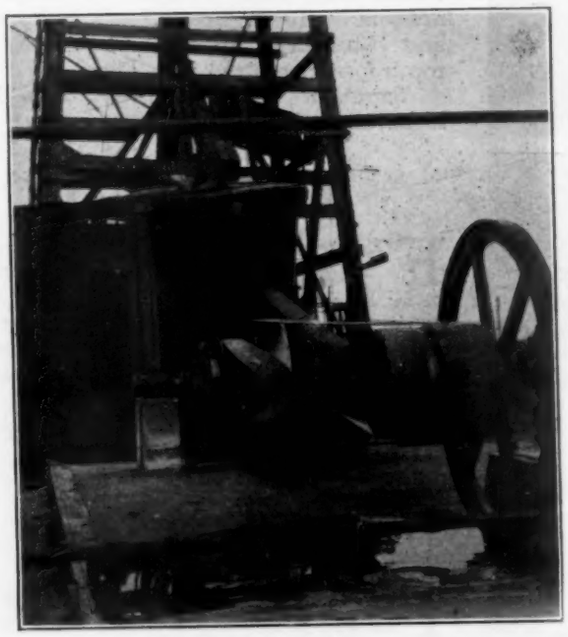

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hart, Pendergrass 1, J. B. Blalock sur, 710 Vs from nw & 596 Vs from sw line.

BORDEN COUNTY—Condor Pet. Co., Big Springs, Hall 1, S. 5, B. 32, T. 3n, 1650 ft from n & e lines.

BRAZORIA COUNTY—Roxana Pet. Corp., Houston, Allen 5, J. G. McNeel sur, 210 ft sw of No. 3.

CALLAHAN COUNTY—E. L. Anderson et al, Moran, Pippen 1, 3158, T.E.&L. sur, 1350 ft from e & 150 ft from s line. Ungren & Frazier, Putnam, Snyder 1, S. 6, T.&N.O. sur, 450 ft e of center of w line; Snyder 2, 300 ft w of No. 1. St. Mary's O. & G. Co., Moran, Pruitt 12, 2287, T.E.&L. sur, 300 ft e of No. 11. Moutray Oil Co., Abilene, Hickman 20, S. 149, B.B.B.&C. usr, 300 ft e of No. 19.

COLEMAN COUNTY — Humphreys Bros. Inc. & Union Oil Co., Brownwood, Mathews 2, B. 43, C. Roquet sur, 300 ft s of No. 1. A. C. McGahey et al, Brownwood, Welch 1, E. Humphreys sur, 150 ft from n & w lines. Texas Prod. Co., Shreveport, La., Gates 1, No. 741, D. Frazer sur, 150 ft from w & 170 ft from s line. E. J. Cunningham, Coleman, Jennings 5, No. 94, A. S. Lipscomb sur, 341 ft s of No. 2. Texas National Oil Co., Coleman, Stevens 2, S. 57, C.C.S.L. sur, 408 ft nw & 150 ft from sw line. Magnolia Pet. Co., Dallas, Morris B. 80, J. B. Davidson sur, 1000 ft w of No. 16. Midsun Oil Corp., Amarillo, McClellan 1, S. 672, D. McDonald sur center. Taylor-Link Oil Co., San Angelo, Stewardson 1, S. 91, E.T. Ry. sur, 2700 ft from w & 620 ft from s line. Shaw, Fox & Adams, Burkett, Adams 4, No. 168, A. Wickson, 1100 ft from n & 150 ft from w line; Burns 46, No. 168, A. Wickson sur, 1650 ft from n & 1350 ft from s line. J. W. Willmott, San Diego, Calif., Vaughn 1, No. 30, A. S. Lipscomb sur, 1170 ft from n & 250 ft from w line.

CALDWELL COUNTY—W. H. Kennon, San Antonio, Schawe 1, T. Maxwell sur, 715 ft from n & 150 ft from w line. Texas Co., Houston, Moore 4, J. Gilbert sur, 300 ft sw of No. 3.

CLAY COUNTY—Deep Rock Oil Co., Fort Worth, Worsham 1, B. 103, Byers Bros., East central part of lease. E. J. Stump & Co., Wichita Falls, Boddy 1, S. 1, H.T.&B. sur, ne corner.

CROCKETT COUNTY—Cushing Ref. & N. Gas Co., San Angelo, Powell 2, S. 53, B. 2, G.C.&S.F. sur.

CRANE COUNTY—Gulf Prod. Co., Fort Worth, McElroy 55, S. 200, B. B, C.C.S.D.& R.G.N.G. sur, 660 ft sw of No. 54. Keck Investment Co., Carlsbad, N. M., McClintock 1, S. 206, B. F, C.C.S.D.&R.G.N.G. sur, ne corner.

CHAMBERS COUNTY — Pure Oil Co., Houston, Lost River 2, Permit No. 11654.

DENTON COUNTY—Lesh & McCall, Nocona, Daugherty 1, B. Gardner sur, 2358 ft from n & 1746 ft from e line.

DUVAL COUNTY—Magnolia Pet. Co., Dallas, Hahl B, 1B, S. 61, Rosita Valley, 150 ft n of center of s line.

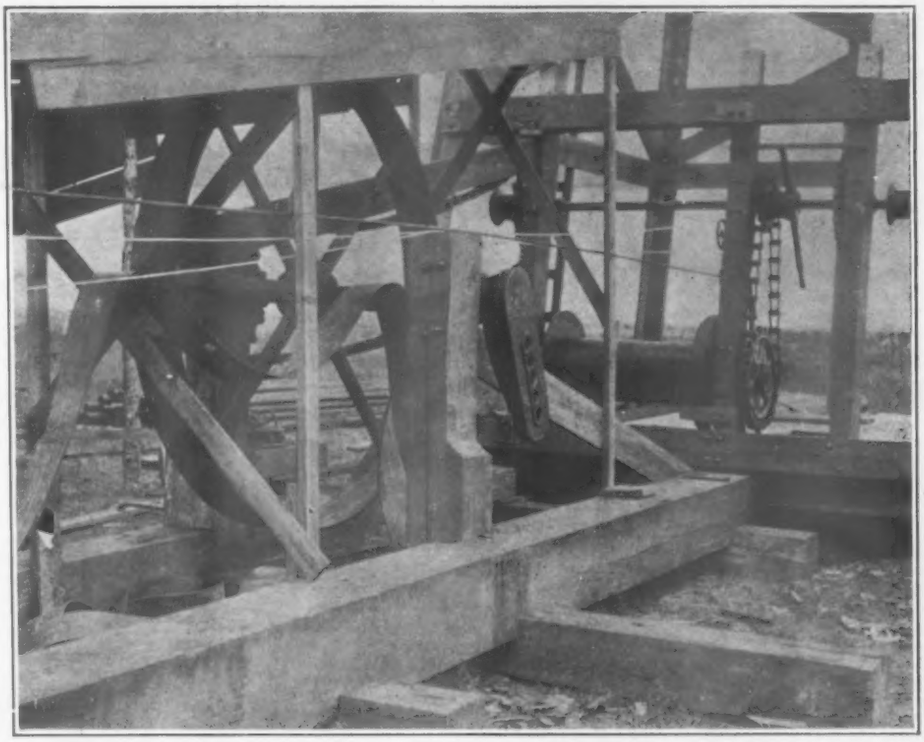
DIMMITT COUNTY—G. W. Morgan, San Antonio, City Nat. Bank 3, S. 25, LIM Canal Co., 600 ft e of No. 1.

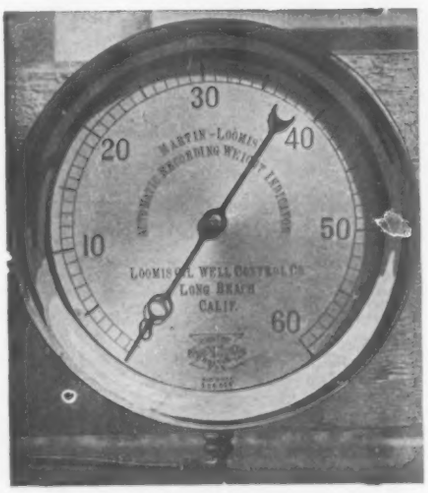
EASTLAND COUNTY—Republic Prod. Co., Dallas, Sneed 4, S. 22, B. 2, Mc L.C.S.L. sur, se corner. States Oil Corp., Eastland, Edmundson 1, S. 22, B. 2, H.&T.C. sur, 330 ft from n & 480 ft from e line. G. H. Wilkins, Eastland, Harrell 1, S. 6, B. 6, J. House sur, 150 ft from n & e lines.

FORT BEND COUNTY—Boling Dome Oil Co., Wharton, Armstrong 1, J. Scott sur, 75 ft from n & w lines. E. F. Simms, Houston, Scott 1, E. Drew sur, 50 ft from e & 475 ft from s line. Sun Oil Co., Beaumont, Farmer 4, J. Scott sur, 300 ft se of No. 3. Cady-Telly Oil Co., Houston, Blakely 1, Blk., F. E. Drew sur, 180 ft from n & 75 ft from e line. Humphreys Corp., Houston, West-Schneck 4, T. Hobermaker sur, 294 ft from n & 75 ft from w line.

FOARD COUNTY—Humble O. & R. Co., Wichita Falls, Johnson 1, S. 37, B. 1, S. P. Ry. sur, 330 ft from n & 480 ft from e line. Empire G. & F. Co., Wichita Falls, Halsell 1, R. Moore sur, 830 ft from n & w lines.

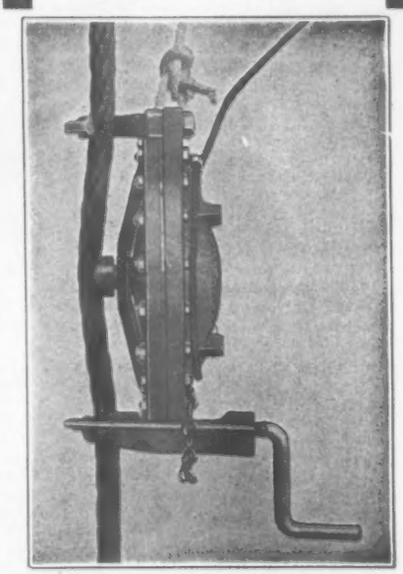
GRAY COUNTY—Whelan-Warren Oil Co., Blackwell, Okla., Williams 1, S. 7, B. 1, A.C. H.&B. sur, 330 ft from n & 270 ft from w line. Phillips Pet. Co., Bartlesville, Okla., Johns 3, S. 87, B. 3, I.&G.N. sur. Magnolia Pet. Co.,

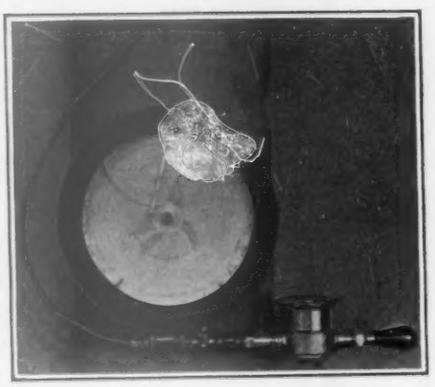




The Granddaddy of the *Modern* Rotary

The photograph above, taken at Angleton, Texas, in July, 1899, shows the first combination standard rotary rig ever built. Note the 9 ft. metal (cast iron) band wheel, the first of its kind, the 2 in. line shaft with overhead clutch, the 4 in. metal to metal brake, and ight (No. 78 malleable) chain. The derrick was 64 ft. in height with an 18 ft. base, and the source of power a 10x10 "Mail Pouch" in the engine house.





THIRTY YEARS have passed since the introduction to the oil industry of the first combination standard rotary drilling outfit — thirty years of constant improvement in methods and equipment since the primitive rig pictured above was designed and built by W. R. "Frosty" Martin, then general superintendent for the Prudential Oil Company of Dallas, Texas. And from the same source which conceived this first standard rotary combination came the most valuable addition to modern rotary drilling equipment—the Martin-Loomis Automatic Recording Weight Indicator. Hearken, ye old timers, here is equipment with forty years of practical field experience built in —the weight indicator with a pedigree!

THE MARTIN-LOOMIS Automatic Recording Weight Indicator has proven itself one of the most important developments since the introduction of the rotary. This instrument, by accurately indicating at all times the weight on the hook and on bottom, constantly guides the driller while making hole, fishing, or taking core. It greatly reduces the chances of twisting off due to crowding, increases the footage per bit, insures better core recovery, and compiles a 24-hour graphic record of all drilling operations. On fishing jobs the Martin-Loomis is invaluable. Progressive operators all over the world are removing the element of uncertainty from their rotary work by the use of this hookup—the pioneer in the fields.

MARTIN-LOOMIS CORPORATION

2827 Cherry Avenue, Long Beach, California, U. S. A.

Foreign Distributors
OIL WELL SUPPLY COMPANY
PITTSBURGH, PA.

AND THROUGH ALL SUPPLY STORES

Mid-Continent Distributors
REED ROLLER BIT COMPANY
HOUSTON, TEXAS

Dallas, Saunders 1, S. 4, B. 1, A.C.H.&B. sur, 330 ft from s & e lines. Plains Drilling Co., Amarillo, Saunders 1, S. 4, B. 1, A.C.H.&B. sur, 990 ft from s & 330 ft from w line.

GUADALUPE COUNTY — Magnolia Pet. Co., Dallas, Carter 1, H. Cottle sur, 150 ft from n & e lines.

HOWARD COUNTY—Marland Prod. Co., Fort Worth, Roberts 1, S. 128, B. 29, W.&N.W. sur, 330 ft from s & w lines. Marrick & Bristow, Ardmore, Okla., Roberts 3, S. 137, B. 29, W.&N.W. sur, 330 ft from s & 1650 ft from e line. Midwest Exploration Co., Amarillo, Clay 1, S. 139, B. 29, W.&N.W. sur, nw corner. Hyer & Yates, Fort Worth, Clay 1, S. 155, B. 29, W.&N.W. sur, 330 ft from n & w lines. Marland Oil Co., Fort Worth, Clay A9, S. 139, B. 29, W.&N.W. sur, 250 ft from n & w lines; Clay G2, S. 126, B. 29, W.&N.W. sur, 250 ft from s & w lines.

HARRISON COUNTY — J. W. Furrh, Waskom, Barkare 11, J. Short sur, 6172 ft from n & 2490 ft from w lines.

HARRIS COUNTY—J. E. Thompson, Humble, Higgins Oil 5, Jas. Strange sur, 690 ft from n & 30 ft from e line. Sun Oil Co., Beaumont, Blaffer 44, R. Dunman sur, nw of No. 15. Humble O. & R. Co., Houston Simms-Smith 74, Wm. Scott sur, 2200 ft e & 950 ft n of No. 73.

HALE COUNTY—Exploration Co. of Texas, San Angelo, Goodman 1, S. 1, Blk. O, D.&S.E. sur, 1320 ft s & e lines.

HUTCHINSON COUNTY — Phillips Pet. Co., Bartlesville, Okla., Pool 2, S. 82, B. 46, H.&T.C. sur. White Eagle O. & R. Co., Kansas City, Mo., Johnson 4, M. Whitley sur, 600 ft nw of No. 3. Phillips Pet. Corp., Bartlesville, Okla., Garford 1, S. 77, B. 46, H.&T.C. sur, 330 ft from s & w lines.

HARDIN COUNTY—Ada Belle Oil Co., Batson, Weiss 123, W. Donohoe sur, 1000 ft from w & 26 ft from n line.

JONES COUNTY—Cosden & Co. Inc., Fort Worth, Bickley 5, S. 50, B. 18, T.&P. sur, 330 ft n & 320 ft from e line. Texas Co., Wichita Falls, Carter 2, S. 13, B. 19, T.&P. sur, 630 ft of No. 1. W. E. Allaun, Fort Worth, Weihl 1, S. 13, J. Nehle sur, 150 ft from s & 660 ft from e line. Roeser & Pendleton, Inc., Fort Worth, Grayson B1, J. N. Grayson sur, S. 3, 330 ft from s & 288 ft from e line. Independent O. & G. Co., Midland, Smith 1, S. 51, B. 18, T.&P. sur, 319 ft from e & 330 ft from s line. Phillips Pet. Corp., Bartlesville, Okla., Tessie 6, S. 19, B. 19, T.&P. sur, 652 ft e of No. 5. Snowden & McSweeney Co., Fort Worth, Brickley 2, S. 50, B. 18, T.&P. sur, 639 ft w of No. 1; Bickley 3, 3-9 ft from e & 330 ft from s line. Wood & Williams, Abilene, Fair 1, S. 3, G. A. Kirkland sur, center.

JEFFERSON COUNTY—Yount-Lee Oil Co., Beaumont, Gladys 69, B. 56, J. A. Veatch sur, 268 ft from s and 15 ft from e line; McFaddin 81, P. Humphreys sur, 407 ft from w & 410 ft from n line.

LIBERTY COUNTY—Gulf Prod. Co., Houston, Morris-Phillips 24, C. Underton sur, 1300 ft from s & 100 ft from w line. Texas Co., Houston, Davis 1, S. Coy sur, 400 ft from w & 3100 ft from s line. Big Six Oil Co., Daisetta, Stovall 2, Devore sur, 20 ft w of No. 1. Sun Oil Co., Beaumont, Mitchell 8, M. G. White sur, 150 ft n of No. 7.

LOVING COUNTY—Lockhart & Co., Pecos, Wheat-Ramsey 1, S. 83, B. 1, W.&N.W. usr, ne corner.

MONTAGUE COUNTY—Pure Oil Co., Fort Worth, Keck A6, W. Donoho sur, 450 ft n of No. 3. Bridwell Oil Co., Wichita Falls, Salmon A6, F. Robertson sur, 325 ft e of No. 5.

MATAGORDA COUNTY — Rycade Oil Corp., Houston, Hudson 3, B. 15, H. Parker sur, 200 ft from e & 600 ft from s lines.

McLENNAN COUNTY—Boyd & Perkins, Waco, Threet 1, I. Pitts sur, 165 ft from n & 615 ft from w lines.

MOORE COUNTY—Phillips Pet. Corp., Bartlesville, Okla., James 1, No. 2, M. Robinson sur, ne corner; James 2, east central. Barnsdall Oil Co., Tulsa, Okla., Harrington 1, T. Ross sur, 330 ft from n & w lines.

NAVARRO COUNTY—Wm. Clarkson Jr., Corsicana, Bradley 15, R.C.S.L. sur, 788 ft from n & 750 ft from w line. E. L. Chapman, Fort Worth, Bush 1, J. Smith sur, 300 ft from w & 150 ft from s line; Martin 1, J. Rahm sur, 588 ft from e & 255 ft from s line; Wilkinson 2, J. Smith sur, 807 ft from n & 456 ft from w line.

PECOS COUNTY—March & Krogan, Sheffield, Jamison 1, S. 5, B. 178, T. C. Ry. sur, 150 ft from s & e lines. Roxana Pet. Corp., Dallas, M. A. Smith D2, S. 24, B. 194, G.C.&S.F. sur, 990 ft from n & 1770 ft from e line. California co., Colorado, M. A. Smith 1, S. 23, B. 194, G.C.&S.F. sur, 1063 ft from w & 2383 ft from s line. Gulf Prod. Co., Fort Worth, M. A. Smith 12, S. 28, B. 194, G.C.&S.F. sur, 1034 ft from w & 990 ft from s line.

SHACKLEFORD COUNTY—L. H. Wentz Oil Co., Eastland, Mathews 1, S. 58, E. T. Ry. sur, 200 ft from s & w lines. Union Oil & Mining Co., Tulsa, Okla., Huskey 29, 549, T.E. &L. sur, 600 ft w of No. 28. Hutton Oil Corp., Cisco, Littlefield 10, S. 7, L.A.L. sur, 300 ft w of No. 4. Texas Co., Wichita Falls, Osborn 10, S. 20, Univ. Lands, 300 ft w of No. 6; Sedwick 2, S. 1, B 1, E. T. Ry. sur, 400 ft w of No. 1. Roeser & Pendleton, Inc., Fort Worth, Cook A1, S. 140, E. T. Ry sur, 150 ft from n & 830 ft from w line; Cook A15, S. 61, E. T. Ry. sur, 655 ft from s & 1295 ft from w line; Cook A14, 220 ft from S & 876 ft from w w line.

SCURRY COUNTY—Landreth Prod. Corp., Midland, Hillman 1, S. 75, B. 25, H.&T.C. sur, ne corner.

TAYLOR COUNTY—E. W. Ames, Cisco, Finley 1, S. 11, D.&D. Asy. 400 ft n of center of s line.

THROCKMORTON COUNTY — W. I. Stock, Sisco, Kelly 1, S. 31, C.I. Ry. sur, 350 ft from s & e lines.

UPTON COUNTY—Humble O. & R. Co., Wichita Falls, Ricker A9, M. S. Denton sur, No. 5, 5574 ft from nw & 2270 ft from sw line.

VICTORIA COUNTY—Houston Oil Co., Houston, McFaddin 1, No. 14, I. Ry. sur, 600 ft from nw & 1600 ft from sw line.

WICHITA COUNTY—L. I. Lyon et al, Wichita Falls, Vanhorn 1, G. F. Langford sur, 150 ft from e & 450 ft from s line. United Prod. Co., Wichita Falls, Waggoner Bros. 1, H. George sur, 150 ft from s & w lines. R. J. Brown, Wichita Falls, Friberg 1, H. Hastie sur, 881 ft from e & 150 ft from s line. Murchison & Cranfill Oil Co., Wichita Falls, Waggoner 2, B. 33, H. George sur, 300 ft s of No. 1.

WILBARGER COUNTY—Fain-McGaha Oil Corp., Wichita Falls, Waggoner BB1, S. 1, S. P. Ry. sur, 150 ft from n & e lines. J. B. Baker Jr., Wichita Falls, Waggoner 4B, T. D. Purnell sur, 150 ft from n & w lines. Consolidated Oil Co., Wichita Falls, Waggoner A12, S. 5, B. 5, H.&T.C. sur, 340 ft w of No. 9; Waggoner C2, S. 5, B. 5, H.&T.C. sur, 340 ft n of No. 1. Burton & Hampton, Wichita Falls, Waggoner E2, S. 40, T. D. Purnell sur, 450 ft w of No. 1. Simms Oil Co., Dallas, Waggoner 3, S. 5, B. 5, H.&T.C. sur, 150 ft from e & 490 ft from s line; Waggoner 4, 300 ft n of No. 2; Waggoner 5, 360 ft e of No. 2. Barkley & Meadows, Wichita Falls, Waggoner C5, S. 5, B. 5, H.&T.C. sur, 450 ft from n & 420 ft from w line. Martin & Hamilton, Wichita Falls, Waggoner C1, S. 5, B. 5, H. & T. C. sur, 150 ft from s & e lines; Waggoner A5, S. 5, B. 5, H.&T.C. sur, 150 ft from n & e lines.

WINKLER COUNTY—Roxana Pet. Corp., Dallas, T. G. Hendrick F6, S 46, B. 26, 440 ft from n & 330 ft from e line; F7, 330 ft from s & e lines; T. G. Hendrick E4, S. 39, B. B5, 330 ft from s & w lines of Sec. 29; T. G. Hendrick E4, S. 39, B. 26, 330 ft from n & e lines. Marland Oil Co., Fort Worth, I. Hendrick B3, S. 34, B. 26, 330 ft from s & w lines; I. Hendrick C1, S. 30, B. B5, 330 ft from s & e lines; I. Hendrick B2, S. 34, B. 26, 990 ft from w & 330 ft from n line. Cranfill & Reynolds, Cisco, I. Hendrick E3, S. 33, B. 26, 660 ft from n & 990 ft from w line. Humble O. & R. Co., Wichita Falls, T. G. Hendrick 16, S. 34, B. B5, 995 ft nw of No. 13. Dixie & Southern Crude Oil Purchasing Co., Shreveport, La., I. Hendrick M25, S. 33, B. 26, 330 ft from e & 2310 ft frmo s line S. 33; I. Hendrick R2, S. 27, B. 26, 330 ft from w & 2310 ft from s line S. 27; I. Hendrick D1, S. 4, B. B12, 330 ft from e & 2310 ft from s line Sec. 4; I. Hendrick C1, S. 35, B. B5, 2310 ft from e & 440 ft from s line Sec. 35; I. Hendrick E2, S. 40, B B5, 2310 ft from n & e lines of Sec. 40; I. Hendrick N4, S. 28, B. 26, 330 ft from e & 1320 ft from s line S. 28; I. Hendrick D3, S 28, B. 26, 330 ft from w & 1650 ft from s line S. 28; I. Hendrick U6, S. 41, B. 26, 990 ft from e & 2200 ft from s line S. 41.

WEBB COUNTY—Usher Carson, Laredo, Webster D5, No. 684, 150 ft e of center w line. Wm. R. Jewell, Laredo, Bruni 3, B. 56, Arriba sur, 165 ft from n & 700 ft from e line. Magnolia Pet. Co., Dallas, Yeager 9, S. 5, Las Animas sur, 150 ft from s & e lines; Yeager 10, 300 ft n of No. 9.

WILLACY COUNTY—Stover & May, San Antonio, Mrs. J. J. Young 1, Tininente Lge. center.

WHEELER COUNTY—Lone Star Gas Co., Dallas, Throstle 1, S. 80, B. 17, H.&G.N. sur; Mayfield 1, S. 52, B. 17, H.&G.N. sur, 660 ft from s & w lines. Pendleton & Vaughan, Shamrock, Ackeley A1, S. 20, B. 24, H.&G.N. sur, center.

WHARTON COUNTY—A. J. Miller, Houson, Armstrong 1, J. Scott sur, (Fort Bend County); Plumb 1, S. F. Austin sur, 100 ft from s & w lines.

WARD COUNTY—Prairie O. & G. Co., Ranger, Sealy 1, S. 95, Blk. A, G.&M. sur, 1320 ft from n & w lines.

YOUNG COUNTY—Magnolia Pet. Co., Dallas, Johnson 2, E. W. Sargent sur, 600 ft e of No. 1. Mook-Texas Oil Co., Fort Worth, Davis 2, 1487, T.E.&L. sur, 266 ft from s & 150 ft from e line; Davis 2, 175 ft from n & 150 ft from e line; Davis 5, 150 ft from n & 521 ft from e line. Schermerhorn Oil Co., Tulsa, Okla., Thompson 3, S. 269, T.E.&L. sur, 447 ft ne of No. 2. Callender & Robert Oil Corp., Wichita Falls, Davis 1, 395, T.E.&L. sur, 750 ft n & 150 ft from w line. Cunningham, Bratcher & Pennell, Loving, Johnson 3, E. W. Sargent sur, 450 ft from s & e lines. C. A. Pennell et al, Loving, Johnson 4, E. W. Sargent sur, 450 ft from s & w line. R. C. Parker, Graham, Kennedy 1, 1937, T.E.&L. sur, 150 ft from n & w lines. Steed & Gans, Wichita Falls, Snider 7, R. Wilson sur sur, 1125 ft from n & 1925 ft from w line.

ZAVALLA COUNTY—Mirando Gas Co., San Antonio, West 3, S. 43, J. Fuenta sur, 1200 ft ne of No. 1.

COMPLETIONS

(Continued from page 69)

WEST TEXAS DISTRICT

CRANE COUNTY—		
Church-Fields et al, University 3..	500	3014
HOWARD COUNTY—		
Evans Oil Co., Roberts 1	200	3050
Magnolia Pet. Co., Roberts 4	3000	3047
Schermerhorn Oil Co., Roberts 2..	4475	3016
JONES COUNTY—		
Hucony Gas Co. et al, Tiner 3	30	2575
McMan O. & G. Co., Tiner 1	*	2556
PECOS COUNTY—		
The California Co., Yates 17	7700	1283
Yates 18	25,000	1388
M. A. Smith (Lease 2)	525	1565
Gulf Prod. Co., Yates 17	1440	1500
M. A. Smith 11	2400	1870
I. G. Yates 15	22,700	1237
I. G. Yates 19	5400	1317
Humble O. & R. Co., Smith 9	1220	1685
Mid-Kansas-Transcontinental, Yates		
5-D	50,000	1265
Yates 3-H	32,400	1680
WINKLER COUNTY—		
Amerada Pet. Corp., Cowden 1	2000	3105
Atlantic Oil Prod. Co., Hendrick		
5-G	7500	2710
Prairie O. & G. Co., Hend ick 4 ..	2000	2748
Pure Oil Co., Grisham-Hunter 6-C.	15,000	2588
Republic Prod. Co., Grisham-Hunter		
3-A	600	2746
Ida Hendrick 3-C	7200	2816
Roxana Pet. Corp., Hendrick 5-F. .	10,300	2640
Roxana & Texas Co., Hendrick 5-B.	4250	2826
Hendrick 5-D	3350	2810
Hendrick 2-E	4200	2830
Skelly Oil Co., Hendrick 9	6000	2657
Southern-Dixie Oil Co., Hendrick..		
4-B-3-T-67	400	2935
Southern-R. A. Westbrook, Hendrick		
15-M-T-88	1800	2807
Hendrick 1-T-T-88	2000	2847

Valves For Long Service

for every purpose

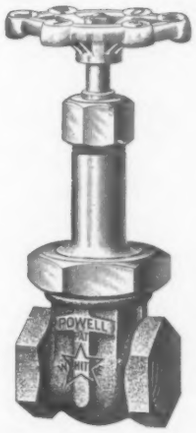


Fig. 375
Bronze Gate Valve

THE more modern trend to higher pressures and temperatures has been accentuated in the sturdy design of Powell Products. This is comparable to the modern methods of manufacture of these long-lived valves.

Powell reputation has withstood the trials through generations of development in valves for controlling water, oil, gas, steam, and air.

The same high standard of product is ever maintained through careful control of raw materials, special designs, accurate processing, and rigid inspection and testing.

Fig. 460
Iron Body Gate Valve

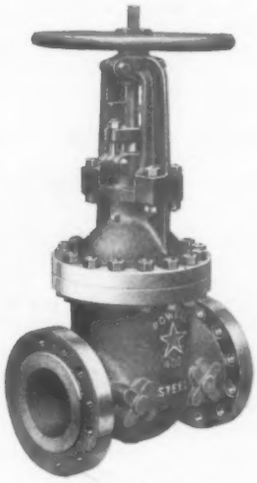


Fig. 4003
Steel Gate Valve

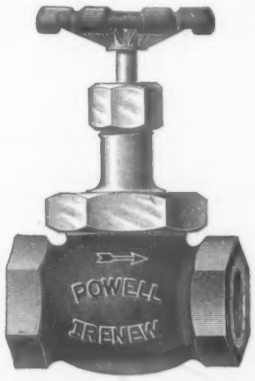


Fig. 190
Iron Body Globe Valve

Fig. 102
Bronze Globe Valve

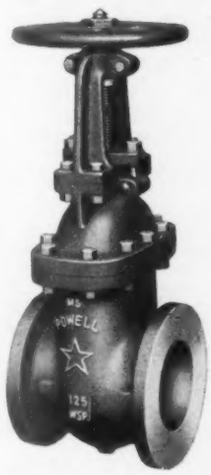


Fig. 1444
Iron Body Gate Valve

Powell Valves and kindred engineering appliances are carried in stock and distributed by

Republic Supply Company

GENERAL OFFICES - HOUSTON, TEXAS

OIL AND GAS WELL SUPPLIES

ROTARY AND CABLE TOOLS

WILDCATS FROM ALL SECTIONS

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
Completions		
CRANE COUNTY—		
C. C. Duffey et al, Cowden 2	*	2705
CULBERSON COUNTY—		
Deep Rock & Grisham-Hunter Corp., Bettis 1	*	1720
LOVING COUNTY—		
Lockhart & Co., Hubbard 1	200	4179
PECOS COUNTY—		
Vacuum Oil Co., Elsinore 1	*	4480
WINKLER COUNTY—		
Roxana & Llano Oil Co., Scarborough 3	*	3490

Drilling Report

ANDREWS COUNTY—Deep Rock Oil Co.'s Harris 1, elev 3173 ft, top salt 1705 ft, top lime 4005 ft, making oil, dr 4535 ft; Harris 2, materials.

BORDEN COUNTY—E. L. Doheny et al's Koonsman 1, elev 2427 ft, top salt 900 ft, dr 2195 ft.

BREWSTER COUNTY—Cowden-Cole et al's Jackson-Harmon 1-A, sd 1500 ft. Forest Oil Corp.'s Skinner 1, sd 1150 ft. Van McPhail et al's McIntyre 1, sd 1765 ft. Reese & White's Kimball 1, sd 2010 ft. Clayton Williams et al's Poncey 1, rig.

COKE COUNTY—Lipan Oil Co.'s Rawlings 1, sd 2840 ft. Louisiana OR Corp.'s Powers 1, rig. Mid-Kansas O. & G. Co.'s Lackey 1, clg.

CONCHO COUNTY — Exploration Co.'s Hartgrove 2, machine. K. Kimberlin et al's Maloy 1, fsh 1100 ft.

CRANE COUNTY—Evans-Anderson-Hughes et al's State Bank 1, elev 2463 ft, top salt 525 ft, dr 3520 ft. Gulf's Waddell 5, dr 685 ft.

CROCKETT COUNTY—Barbara Oil Co.'s Cox 1, sd 200 ft. T. W. Callahan et al's Todd 1, fsh 695 ft. Hal Compton & Co.'s University 1, sd 2062 ft. W. W. Donnelly et al's Shannon-Middlebuster 2, (Sec. 18) top salt 774 ft, sd 1175 ft; Shannon-Powell 1, (Sec. 42) spudded and sd. Fuhrman Pet. Corp.'s Padgett 1, fsh 460 ft. Renee Oil Co.'s University 1, sd 2706 ft.

CULBERSON COUNTY—J. M. Hickey et al's Finley 1, dr 1475 ft. W. S. Hillyer et al's McGregor 1, materials. Scott & Dittman's Miller 1, sd 1765 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, sd 3145 ft.

DAWSON COUNTY—Magnolia Pet. Co.'s W. R. Jetter 1, dr 180 ft.

EDWARDS COUNTY—Magnolia's Whitehead 2, dr 1685 ft. McMan O. & G. Co.'s Schreiner 1, dr 1250 ft.

EL PASO COUNTY—C. E. Sillix et al's Malone 1, sd 1010 ft.

FISHER COUNTY—Bickerstaff et al's J. W. McWhirter 1, dr 440 ft. Cranfill-Reynolds & Sun Oil Co.'s E. G. Young 1, elev 1801½ ft, sd 1155 ft; J. A. Young 2, elev 1806 ft, dr 875 ft; B. F. Willingham 1, elev 1811 ft, dr 2060 ft. R. W. Rainey & Bill Little's Marberry 2, elev 1929 ft, top lime 2995 ft, ur cas 3289 ft. Roeser-Pendleton & Landreth's Decker 1-A, junked 902 ft. Texas Unity Oil Co.'s Reddus 1, elev 1868 ft, dr 3330 ft.

GARZA COUNTY—Emerald Oil Co.'s Boren 3, elev 2353 ft, top salt 660 ft, top lime 1605 ft, sd 4801 ft.

GLASSCOCK COUNTY—Eastland & White Eagle O. & R. Co.'s Cox 1, top salt 1225 ft, ur 2125 ft. Meriwether Oil Co.'s McDowell 2, elev 2522 ft, top salt 1000 ft, top lime 2510 ft, dr 3825 ft. World Oil Co.'s McDowell 1-B, elev 2521 ft, top salt 975 ft, sd 2360 ft.

TOM GREEN COUNTY—F. P. Green et al's Fee 1, sd 1065 ft. Tinker et al's Jones 1, sd 940 ft. McLaughlin & Ridge's Holder 1, sd hfw 3000 ft.

HOWARD COUNTY—Worth B. Andrews et al's J. B. Neal 1, spudded and sd. W. W. Donnelly et al's Clay 1, elev 2674 ft, top lime 2130 ft, dr hfw 3055 ft. L. C. Harrison et al's Dodge 1, dr 1580 ft. Laurel O. & G. Co.'s Reid 1, elev 2375 ft, top salt 965 ft, dr 3800 ft. Louisiana OR Corp.'s Kloh-Rumsey 1, rig. Magnolia's O'Daniel 2, dr 3565 ft. Taylor-Link Oil Co.'s Kloh 1, sd 1015 ft. Texon & Marland's Settles 2-A, dd, fsh 2680 ft.

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas-casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches lcn—location; m—milling; n, s, e. w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

HUDSPETH COUNTY—Western States Oil Co.'s Gardner-Mosely 1, water trouble 2945 ft; S. W. Moore 1, sd 2240 ft.

IRION COUNTY — H. H. Adams et al's Thomson 1, sd hfw 1502 ft. Kimbrough & Tuel's Nutt 1, set cas 1360 ft. Mertzon Oil Co.'s Roach 1, sd hfw 1665 ft. Signal Oil Co.'s Suggs 1, rig. Webb et al's Nutt 1, ur 2003 ft. W. West et al's Suggs 1, dr 1765 ft.

JONES COUNTY — E. P. Campbell & Clark's Dickinson 1, ur 2280 ft. E. P. Campbell et al's Berry 1, fsh 200 ft. Cosden & Co. & Herbert Oil Co.'s Bickley 1, rig; Bickley 2, lcn. Cowboy Evans et al's King 1, sd 1510 ft. Cranfill-Reynolds & Dilworth's Bickley 1, lcn. Eastland Oil Co. & White Eagle O. & R. Co.'s Derrick 1, dr 1850 ft. Atkinson & Sandefer's Hudspeth 1, lcn. Hines et al's J. F. Saunders 1, dr 1555 ft. Hurley Oil Co.'s Gunther 1, sd hfw 2915-28 ft. Independent O. & G. Co.'s A. T. Smith 1, rig. McMan O. & G. Co.'s Bickley 1, lcn. Marland Prod. Co.'s Mason 4, dr 2435 ft. Mook-Texas et al's McCright 1, dr 2175 ft. Pandem Oil Corp.'s Cox 1, sr 1245 ft. Phillips Pet. Co.'s Mason 4, rig; Tessie-Walling 6, rig; Sharp 1, elev 1881 ft, pb from hfw 3017 ft to 2548 ft. Robert Oil Corp. & Cosden & Co.'s Grayson 4, spudding; Grayson 5, dr 2175 ft. Roeser-Pendleton & Landreth's Grayson 2, dr 780 ft; Grayson 1-B, rig. Roeser-Pendleton & Stebbins' Higgs 1-B, dr 1205 ft. Sinclair O. & G. Co.'s Bickley 1, spudding. Snowden & McSweeney's Bickley 2 and 3, rigs. Texas Co. & Cosden & Co.'s Carter 2, rig. W. W. Zingery et al's Thomas 1, lcn.

KENT COUNTY—Cosden & Co.'s Bilby 1, dr 2190 ft. Phillips Pet. Co.'s Sandell 1, dr 3480 ft.

KING COUNTY—Humble's Pitchfork 1, fsh 4035 ft. Texas Co.'s Johnson 1, ur 3370 ft.

LOVING COUNTY—Lockhart & Co. et al's R. L. Allen 2, dr 210 ft; Fee-Lepp 1, co maknig two million ft gas 4172-75 ft; Wheat-Ramsey 1, dr 350 ft. Hadlock Oil Co.'s Russell 2, elev 2678 ft, top black lime 4230 ft, sd after shot, td 4395 ft.

MARTIN COUNTY — Phillips Pet. Co.'s Slaughter 1, elev 2726 ft, top salt 1685 ft, dr 4295 ft.

MENARD COUNTY — Barnett & Drake's (was May & Clark) Callahan 1, ur cas 850 ft. Panhandle Ref. Co. et al's Eckhardt 1, cem cas 2966 ft with good show oil 2967-70 ft. Renfro et al's Davis 1, sd 925 ft.

MIDLAND COUNTY—C. P. Shelton et al's Kloh 1, ur 1140 ft. O. H. Shoup et al's Parks 1, elev 2871 ft, top salt 1740 ft. dr 3350 ft.

MITCHELL COUNTY—E. P. Campbell et al's Pond 1, dr 355 ft. Hucony Gas Co.'s Weichsel 1, sd 210 ft. Owen-Sloan Co.'s G. M. Brown 1-A, dr 800 ft. Teas & Wheeler's Radford 1, rig.

NOLAN COUNTY—Herbert Oil Co.'s Pepper 1, sd 1980 ft.

PECOS COUNTY — Amerada Pet. Corp.'s Johnson 1, sw hfw 1260-75 ft. Anderson et al's University 1, sd 1880 ft. Alexander & Lyles' Sellman 1, top salt 814 ft, fsh 1500 ft. Benedum & Trees' Corder 1-A, top lime 1840 ft, sd 1900 ft. M. Z. Dibble et al's Bonebrake 1, sd 1250 ft. Bob Elmore et al's M. Holmes 2, dr 2115 ft. Cowboy Evans et al's Byrens 1, elev 2441 ft, top lime 1310 ft, dd and abn 1451 ft. A. T. Fletcher et al's Power 1, spudding. J. W. Grant et al's Turney 1, elev 2592 ft, sd 3850 ft. Mauch & Krogan's Holmes 1, dr 285 ft. Olean Pet. Corp.'s Harral 1, elev 3005 ft, top salt 845 ft, top lime 2540 ft, sd 3303 ft. Pecos Valley Oil Co.'s Fee 1, sd 885 ft. Phillips Pet. Co.'s Hayman-Nutt 1, elev 2943 ft, top lime 2085 ft, dr 4415 ft. Roxana & Kirby Pet. Co.'s University 1, dr 3705 ft. Schumaker et al's Williams 1, spudded and sd. Southern Crude Oil Pur. Co.'s Scharbauer 1, elev 2680 ft, pull cas 2964 ft. Transcontinental Oil Co.'s University 1, elev 2552 ft, top lime 1035 ft, sr 4125 ft. P. R. Whonlich & Co.'s Arnold 1, trace gas 963-66 ft, sd for cas 1135 ft. World Oil Co.'s Kloh 1, elev 2810 ft, sd 3105 ft.

PRESIDIO COUNTY — Empire et al's Tootle 1, spudded and sd. L. C. Brite et al's Fee 1, sd 1025 ft.

REAGAN COUNTY—Empire Gas & Fuel Co.'s Sawyer 1-A, rig.

REEVES COUNTY—E. W. Brooks et al's Eddins 1, fsh 5658 ft. Eastland-Vacuum & Geo. Lyles' Campbell 1, elev 3176 ft, top lime 3040 ft, dr 3370 ft. Exploration Co.'s Kinney 1, elev 2847 ft, sd 2900 ft. McRobie et al's Bell 1, sd 500 ft.

RUNNELS COUNTY—Agnew & Sons' Russell 1, fsh 2600 ft. Gibson-Johnson's Rainwater 1, sd 2505 ft. Nourse & Tilton's Cramer 1, rig. Pure Oil Co.'s Giesecke 1, elev 1698 ft, dr 2220 ft. Vacuum Oil Co. et al's McMillan 3, spudding.

SCHLEICHER COUNTY—Long Bros. et al's Williams 1, spudded and sd.

SCURRY COUNTY—Landreth Prod. Corp.'s Hillmer 1, dr 680 ft. R. B. Pender et al's Davis 1, rig.

STERLING COUNTY—F. & G. Oil Co.'s Foster 1, sd 330 ft. F. P. Zoch et al's Neal Reed 1, dr 2250 ft.

STONEWALL COUNTY—Sun Oil Co. & Cranfill Bros. Oil Co.'s Rayner 1, dr 765 ft.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, ur cas 4180 ft.

TAYLOR COUNTY — Grisham - Hunter Corp.'s Stevens 1, rig.

TERRELL COUNTY—Big Bend Oil Corp.'s Bassett 1, spudded and sd. Champlin Ref. Co.'s Carter 1, elev 2884 ft, fsh 3552 ft. Milham Corp.'s Bassett 1, elev 2270 ft, dr 4100 ft. Keck-Pecos Oil Trust's Hamilton 1, trace oil 1575 ft, dr 1735 ft.

TERRY COUNTY—Superior O. & G. Co. (was King Pet. Co.'s) Brownfield 1, dd, elev 3205 ft, dr 4135 ft.

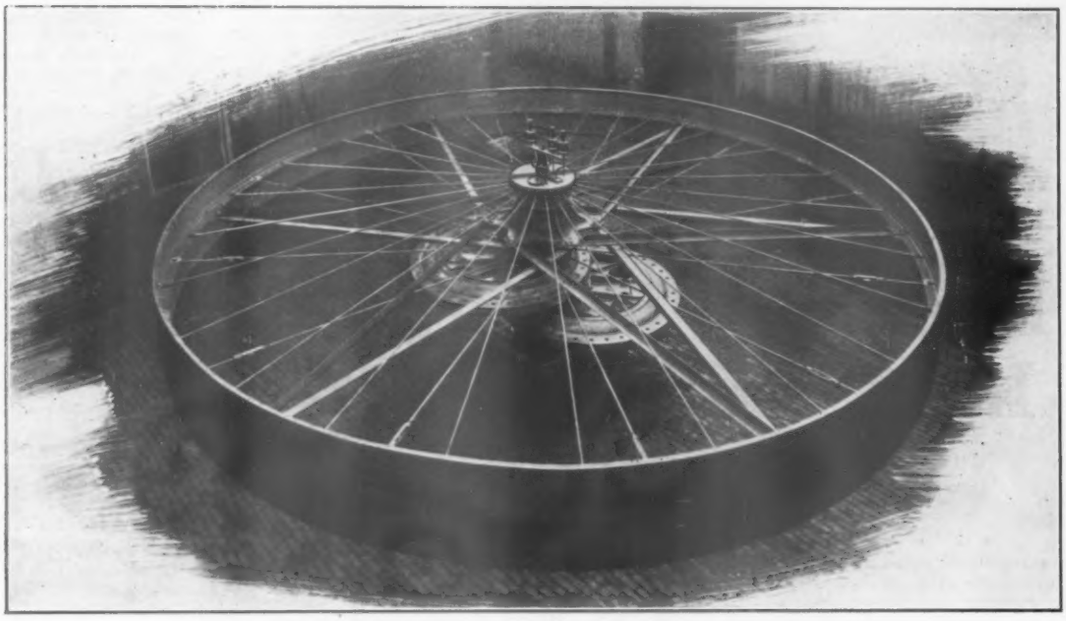
UPTON COUNTY — Cordova-Union Oil Corp.'s Fee 1, elev 2633 ft, top salt 570 ft, top lime 2033 ft, sd hfw 2210 ft. Keck-Investment Co.'s McClintic 1, rig.

VAL VERDE COUNTY — Val Vert Oil Corp.'s Bassett 1-A, spudded and sd. Producers Oil Co. et al's Everett 1, lcn.

WARD COUNTY — Denver Prod. & Ref. Co.'s Cherokee Fee 1, ur cas with hfw 2487-90 ft. E. B. Lovelace et al's Redman 1, rig. Prairie O. & G. Co. et al's J. Sealy 1, dr 220 ft. Rector Oil Co.'s Johnson 1, spudded and sd. Shipley et al's Hayslett 1, sd 900 ft.

WINKLER COUNTY—V. T. Bolin & Co.'s Brown 1, elev 2847 ft, top salt 1302 ft, sd after shot, td 3211 ft; Brown 2, rig. Empire Gas & Fuel Co.'s Daugherty 1, elev 2894 ft, top salt 1927 ft, top lime 2692 ft, cem cas 2694 ft. Magnolia Pet. Co.'s W. F. Scarborough 1, rig. Sid Richardson-White Eagle O. & R. Co. et al's O'Brien-Stockton 1, elev 2722 ft, top salt 2035 ft, top lime 2648 ft, making three million ft gas and five bbls oil per hour in lime 2805-2948 ft. Southern Crude & R. A. Westbrook's E. G. Hutchings 3-T-90, elev 2839 ft, top lime 2325 ft, cem cas and stdz 2778 ft. T. P. Coal & Oil Co.'s L. Daugherty 1, elev 2881 ft, top salt 1460 ft, top lime 2894 ft, plugged back from water at 3240-43 ft, to 3200 ft for shot.

Pumping deep wells . . . . . economically



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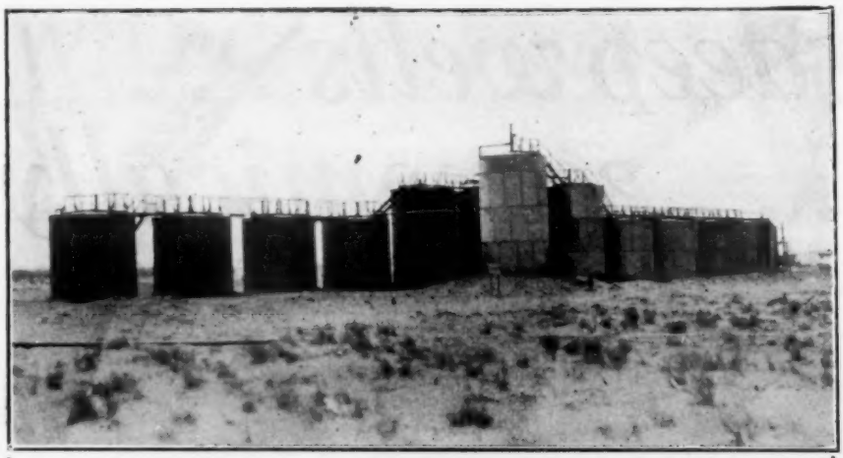

12 500-barrel, 3 750-barrel and 1 900-barrel Special Flow Type MALONEYS, Southern Crude Purchasing Co., T. G. Hendricks "C" Lease, Winkler County, Tex.

3 Exclusive Factors In MALONEY Tightness

The exceptional tightness of MALONEY Bolted Steel Tanks is due to three features which are exclusive with these tanks. (1) Our patented "crimp" at seams and joints secures accurate fit of parts. (2) Our specially developed gasketing is sufficiently pliable to pack bolt holes tightly when bolts are tightened. (3) Our Gaso cement renders seams vapor-tight and resists the action of gasoline and the lighter oils.

MALONEYS are made of the most durable sheet steel known. Seams are reinforced with rigid steel channels. Our special bolts have a tensile strength of 90,000 lbs. Cleaning out plates are large and set flush with bottoms. Painting is with Maloney special pearl gray paint. We use the best valves and thief hatches the market affords.

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MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MADE OF KEYSTONE COPPER STEEL

MALONEY

"ALONE"

SOUTHWEST TEXAS

Completions

CALDWELL COUNTY—

Company, Well and Location	Initial Production Bbls.	Depth
Luling O. & G. Co., Carter 2 near Luling	*	2875

CALDWELL COUNTY—Detex Oil Co.'s August 1, Branyon dist., Cleaning out hole, td 3065 ft. Luling O. & G. Co.'s Carter 2, abn; Carter 3, near Luling, dr 2318 ft chalk. T. C. Hadley's Wilson 1, dr 2420 ft shale; Heise 1, preparing to pump; Tiller 1, dr 2260 ft chalk. Lu Tex Oil Co.'s Davis 2, will pump at 2330 ft. Suttle et al's Malone 1, dr 2340 ft chalk. The Texas Co.'s Branyon 1-B, near Lockhart, ru. M. R. Armstrong et al's Martin 1, sd 1455 ft.

DUVAL COUNTY—National Oil Co.'s Ball 1, sd 3990 ft.

HIDALGO COUNTY—Dale Smith's Daskan 1, sd 3780 ft. Queen City O. & G. Co.'s American Land & Irrig. Co. 2, 3 mi n Mercedes, sd 700 ft.

JIM WELLS COUNTY—Cushing Oil Co.'s Perez 2, 3 mi n Alice, sd 100 ft.

KINNEY COUNTY—Stephens et al's Clamp 1, sd 1800 ft.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittam 2, Eagle Pass, waiting on repairs, td 7300 ft; Sullivan 3, Eagle Pass, dr 2800 ft lime. Ryan Consolidated's India Land Co. 1, 24 mi se Eagle Pass, trying to sdtrk at 4325 ft.

NUECES COUNTY—May et al's Gallagher 1, 12 mi w Corpus, dr 1750 ft.

VAL VERDE COUNTY—Thraves et al's Wilson 1, sd 1125 ft. Valvert Oil Co.'s Bassett A-1, dr 850 ft.

MOUNTAIN STATES

COLORADO

ARCHULETA—Juanita Oil Co., Harvey 1, sw 4-32n-3w, dr 200, ft.

BENT—Marland Oil Co., Pipe Springs 1, se 27-29s-49w, dr 2856 ft.

JACKSON—Wood et al, 1, 30-3s-69, stndg 3000 ft. Producers & Refiners Corp., Hendershot 1, ne 2-6n-81w, dr 1140 ft.

LAS ANIMAS—Reiter-Foster and Phillips Pete, 23-29n-56, bit trouble at 2575 ft. Alavier Pete Co., Branson 1, ne 3-35s-58e, ready to spud. Parker Club-Kinney Coastal, Fee 1, 4-28s-68w, ready to spud.

LaPLATA—Childers Dr. & Pr. Co., Dry Mesa 1, 29-32n-14w, td 820 ft. Royal P. & R. Co., Red Mesa 1, 27-33n-12w, rig.

LINCOLN—Kelley Oil Co., State 1, nw 36-14s-57w, dr 1227 ft.

MESA—Eureka Oil Co., Holly 2, 24-1s-13, sd 925 ft. Peerless Oil Co., Hoel 1, ne 23-8s-104, prep to deepen from 2059 ft.

MORGAN—Badger Creek O. & D. Co., Kent 1, sw 2-2n-57w, dr 800 ft.

MONTROSE—Uncompahgre O. & G. Co., nw 27-50n-10, dr 100 ft.

MOFFAT—Ohio Oil Co., State 1, 16-12-100, dr 2460 ft. Yarg P. & R. Co., 205, 26-4n-92w, fsg 4166 ft. Alliance Oil Co., Milliken 1, 14-4n-92w, dr 3415 ft. McCormick et al, Sales 1, se 28-4n-92w, fsg 2480 ft.

RIO BLANCO—Texas Prod. Co., Freeman 1, 27-3-94, dr 5907 ft. Argo Oil Co., se 9-2s-96w, prep to spud. Union of Calif., U. S. Consolidated 1, 10-2n-88w, abd 1017 ft.

ROYTT—Great Western Oil Co., State 1, 17-60n-56w, stand. 2475 ft.

YUMA—Etnyre Synd., sw 7-2s-43, sd 900 ft.

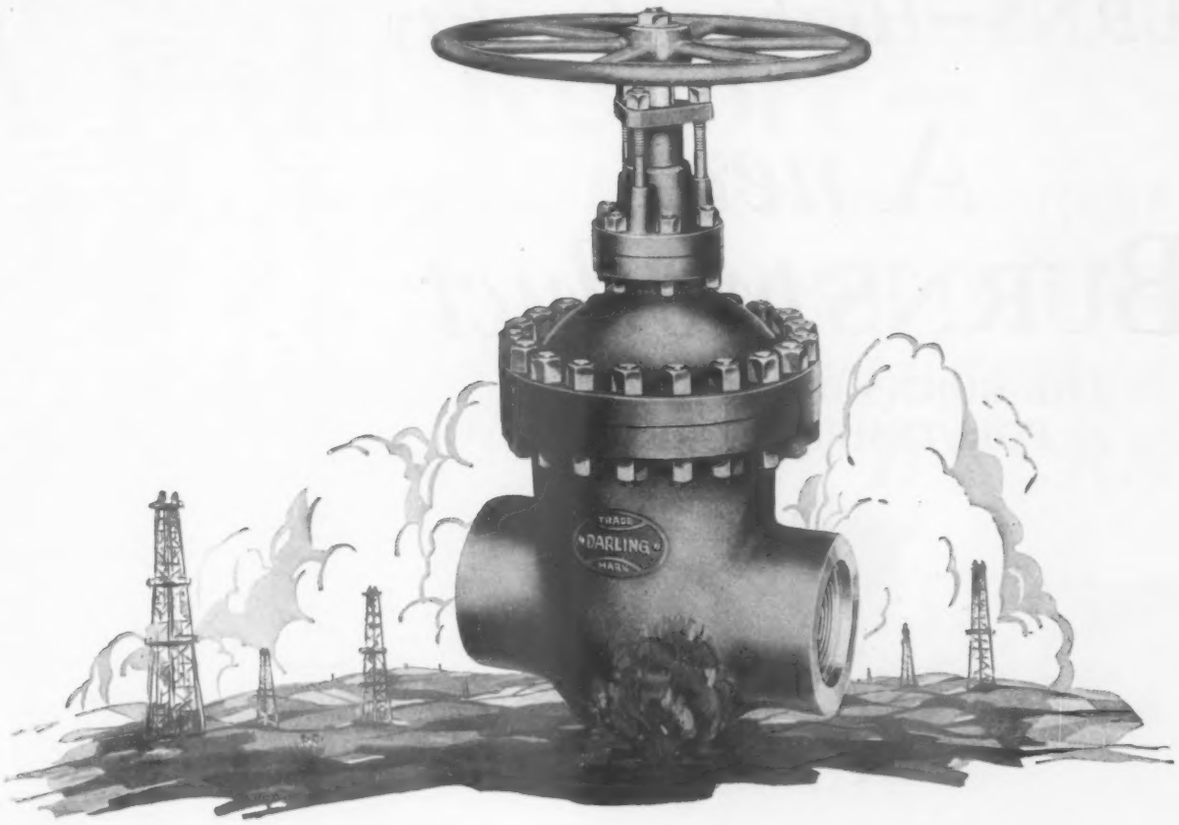
NEW MEXICO

CHAVES—Snowden & McSweeney, Merchant 1, nw 27-15s-23e, dr 2430 ft. R. E. Neal et al, Russell 1, 21-14s-25e, dr 965 ft. Warman et al, 1, sw 23-13s-24e, stand 255 ft.

DeBACA—Matador Oil Co., State 1, sw 6-4n-20e, stand 514 ft. Navajo Oil Co., McAdoo 1, ne 16-1s-27e, td 4190 ft, will resume under management of the MacAdoo Petroleum Corporation.

GUADALUPE—Navajo Oil Co., Goard 1, 10-3n-17e, dr 2565 ft.

LEE—Midwest Ref. Co., State 1, 9-19s-39e, water trouble at 4165 ft; Farnsworth 19, 12-26-37w, dr 3055 ft. Marland, Eaves 1, 19-26-37,



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select one made of forged steel so you can obtain additional strength without adding to the weight. Forged steel is free from piping, sand holes, porous spots and other flaws hidden in the average castings. Darling Forged Steel Gate Valves have all the splendid features found in other Darling Gate Valves, plus the extra tensile strength of Forged Steel. If you are the least bit uncertain about the strength of your present valves under possible high pressures, equip your lines with Darling Forged Steel Valves. They will give you peace of mind.

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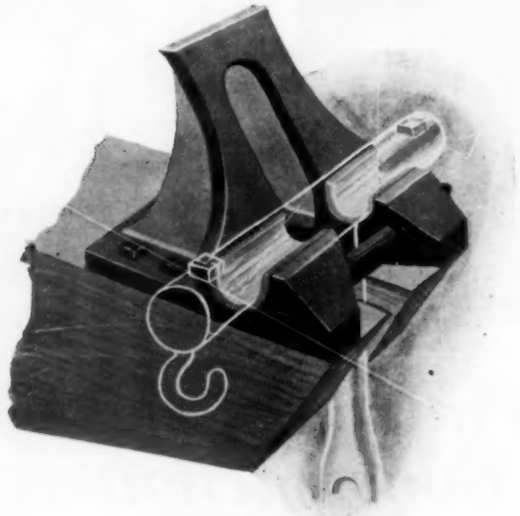

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TEMPER BURNS SCREW

BURNS
Tool Company
OKMULGEE - OKLAHOMA

fsg 3000 ft; Sholes 1, 19-25s-37e, fsg tools at 3034 ft; Lynn 1, 26-23-36, dr 2200 ft; King 1, ne 26-25s-32e, rigged; Brooks 1, sw 8-20s-33e, spdg at 25 ft; Danciger 1, 7-23-36e, dr 1315 ft; Reed 1, 22-20s-36e, bldg rig; Meyers 1, 26-20s-37e, location; Warner 1, 28-20s-38e, location; Lockhart 1, 31-21s-36e, location; Slattery 1, 7-22s-34e, location. Empire, State 1, 8-21s-35e, standing 3835 ft. Gypsy, State 1, 34-21s-36e, standing 3072 ft. Exploration Co., Record 1, ne 26-19s-35e, td 4556 ft. Morton et al, State 1, ne 32-11s-38, spd 20 ft. Texas Prod. Co., Sheppard 1, ne 6-26s-37e, dr 900 ft. Texas, Eagle 1, se 9-26s-36e, rigged. Texas, Moberly 1, se 17-26s-37e, rigged. Bordages et al, Hughes 1, 27-19-18w, stand cem at 3567 ft. Curtis Dr. Co., Nixon 1, 22-18s-34e, wait for casing. C. E. Reynolds Dr. Co., Anderson 1, 29-13s-37e, dr 2200 ft. Cranfill & Reynolds, Wilson 1, ne 23-25s-36e, location. Cranfill & Reynolds, State 1, se 23-26s-36e, dr 750 ft. Skelly Oil Co., Joiner 1, se 26-25s-36e, dr 900 ft. Rector Oil Co., Maechtel 1, sw 5-26s-33e, rig.

SAN JUAN—Continental Oil Co., Munoz 17, 2-29-19, dr 6115 ft. Huntington Park Oil Co., 29-30-9, laying water line, moving in rig. Huerfano Oil Co., Wiltbank 1, 25-29-11, stnd 800 ft. San Juan Pet. Co., 1, 9-29-13w, sd 2950 ft. Kirtland Dr. Co., Hunt 1, 10-29-15, td 450 ft. Kutz Canon O. & G. Co., Day 1, 29-28-11, repairing, td 270 ft. Midwest Refining Co., State 1, se 36-22n-14w, dr 1337 ft. Blackrock Oil Co., 1, sw 11-25n-13w, dr 1021 ft. Co-Ne-Mo Oil Co., Viles 2, 28-29-11, dr 707 ft.

SAN MIGUEL—E. Adams et al, Deason 1, 14-15n-16e, sd 1235 ft. H. E. Hoover Co., Sanguijuela 1, se 18-17n-17e, undrr 6⅝-in to 2000 ft.

TORRANCE—Bluhall O. & G. Co., 1, 20-6n-10e, dr 1182 ft.

WYOMING

BIG HORN—Utah Southern Oil Co., 3, 29-56n-97w, show at 3707 ft. Producers & Refiners, 3, 24-56n-98, dr 2810 ft. Ohio Oil Co., Cross Gas 2, 33-56-97, dr 3430 ft. Ohio Oil Co., Colony 1, lot 57, dr 1955 ft. Prairie Oil & Gas Co., 1, 35-56n-95w, mvg in.

FREMONT—Producers & Refiners, Muskrat 1, 34-34-92, fsg tools at 4340 ft. Texas Production Co., Alkali Butte 1, 1-33-95, sd for storage at 4000 ft.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, mvg in bldg camp.

LINCOLN—Midwest Explo. Co., Waterfall 1, sw 35-22-113, dr 1100 ft. Quad States Enterprise, Inc., 11-19n-116w, dr bel 1300 ft. Midwest Ref. Co., Gray's River 1, se 36-37-117, location. Fontenelle Oil Co., ne 1-24n-113w, dr 1077 ft.

NATRONA—M. C. Weisman, ne 1-36-82, sd 980 ft with ¶1 gas showing.

NIOBRARA—Buck Creek Oil Co., 4-36n-62w, dr 2915 ft, hole full of water.

PARK—Calif. Explo. Co., 1A, 29-48-103, dr 3465 ft. Fred G. Ostland, Hoodoo Ranch 1, 23-51-102, td 1740 ft. E. H. Rosenberg, 25-58n-98w, shut in for storage at 2585 ft. California Exploration co. and P. & R., Pitchfork 1, 14-48n-102w, dr 1280 ft. Ohio Oil Co., 27-52-100, dr 4475 ft. Lenco Pet. Co., 20-53-100, sd 100 ft. Ydoc Oil Co., ne 6-15n-101w, sd 735 ft. Union of California, Taylor 1, 22-47-101, testing 3780 ft. N. F. Clark et al, 11-49n-102w, dr 2075 ft. Resolute Oil Co., nw 17-57-101, dr below 1450 ft. S. C. Ferdig, Nelson 1, 4-51-102, rig up. Oregon-Wyoming Oil & Gas Co., 1, sw 30-52-101, dr 200 ft.

SUBLETTE—California Interests, 17-27-113, mvg in. California Co., Wyss 1, 12-32n-115w, strrming to 600 ft. California Co., Buchell 2, 11-29n-115w, co to 1560 ft. California Co., Buchell 1, 11-29-115, dr 1463 ft.

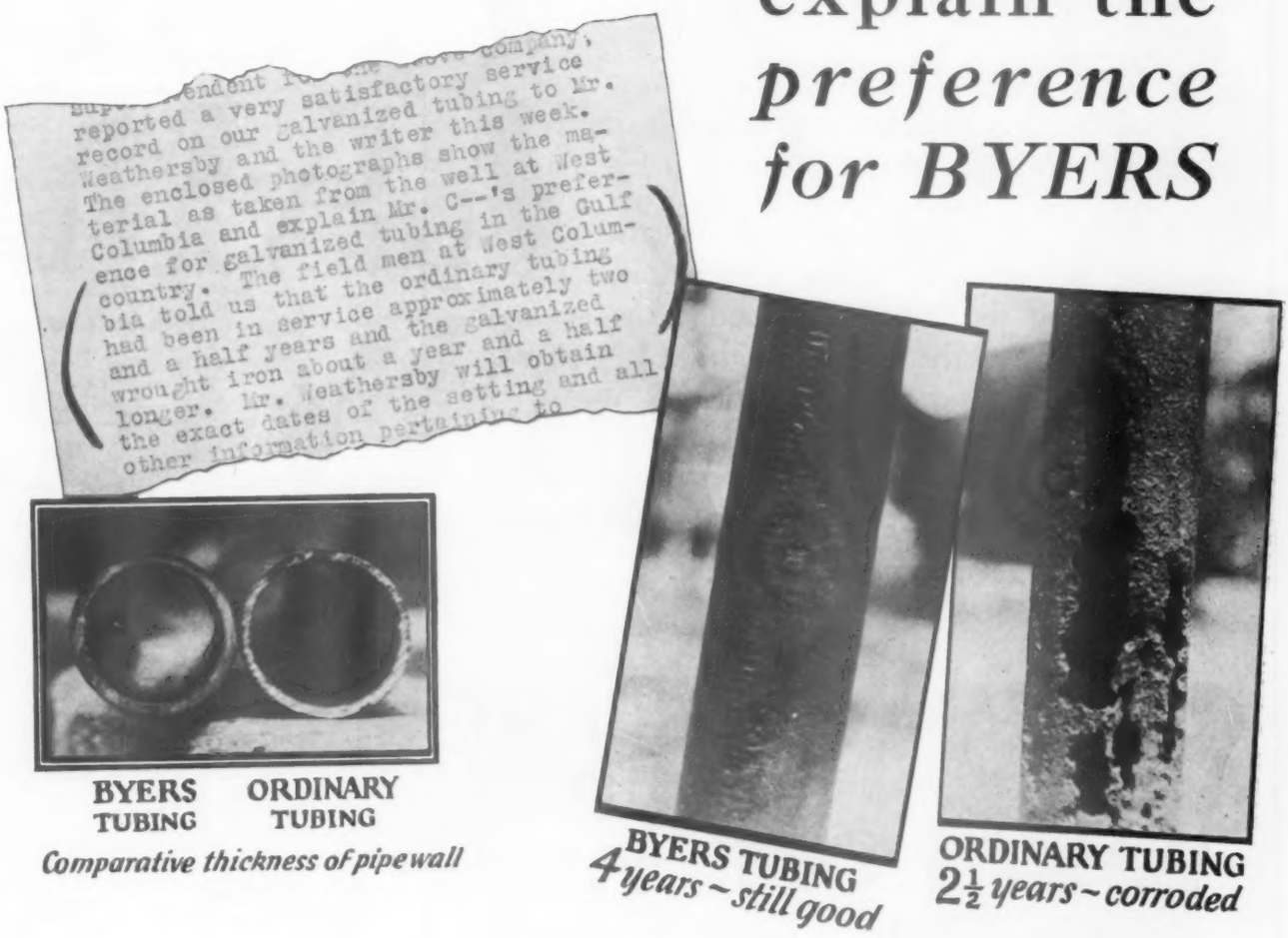
SWEETWATER — Prairie O. & G. Co., Tucker 1, 18-13-99, dr 1765 ft. Ohio Oil Co., Humphreys 1, 2-12-101, bldg rig. Sormir Pet. Co., 13-21-100, stand 1330 ft. Hi-Land Oil Co., Jackson 1, se 2-20-104, location. Hi-Land Oil Co., Lennon 1, se 32-21-103, location.

UINTA—A. R. Johnson, 1, nw 2-14n-118w, dr 950 ft. C. L. McWherter 1, 11-14n-118w, dr 250 ft. Minton et al, 2, sw 8-18n-116w, dr 550 ft. Cooper et al, IX, 18-18-117w, sd 305 ft. Cooper et al 1, 19-18-117, location. C. L. McWherter 2, 15-14n-118w, spudding. H. Allen Rispin, se 5-16n-117w, dr 350 ft. H. Allen Rispin, Taylor 1, 22-15-118, dr 125 ft; McQuaig 1, 34-15-118, mvg in rotary; Rispin 4, 17-13-119, lcn. A. J. Whiteman, ne 18-16n-117w, dr 880 ft. Oscar Peterson Oil Co., Osborne 1, 22-15n-

A Field Report —

and its photographic accompaniment

explain the *preference for BYERS*


reported a very satisfactory service
record on our galvanized tubing to Mr.
Weathersby and the writer this week.
The enclosed photographs show the ma-
terial as taken from the well at West
Columbia and explain Mr. C--'s prefer-
ence for galvanized tubing in the Gulf
country. The field men at West Colum-
bia told us that the ordinary tubing
had been in service approximately two
and a half years and the galvanized
wrought iron about a year and a half
longer. Mr. Weathersby will obtain
the exact dates of the setting and all
other information pertaining to
BYERS TUBING
ORDINARY TUBING
Comparative thickness of pipe wall
BYERS TUBING
4 years ~ still good
ORDINARY TUBING
2½ years ~ corroded

REPORT after report tells the same story, rolling up an indisputable record of how Byers Galvanized Wrought Iron Tubing is giving many times the service of ordinary tubing.

The superiority of Byers Galvanized Tubing is due

First — To the rough surface of wrought iron, which affords a better anchorage for the zinc coating than is possible to obtain on pipe not made of genuine wrought iron. Zinc sticks to wrought iron. You can cut, bend, thread, and abuse it in many ways without danger of having the coating chip or peel off as on cheaper pipe.

Second — The coating on Byers is considerably heavier than on cheaper pipe.

Third — The base metal itself is more rust-resisting than ordinary metal.

The above photographs were part of a confidential report made by a Byers' representative in the oil fields. These reports, investigating the life of Byers Pipe and Tubing in the oil country, consistently run true to form, showing that Byers Galvanized Tubing can be depended upon to give two to five times the service of ordinary tubing.

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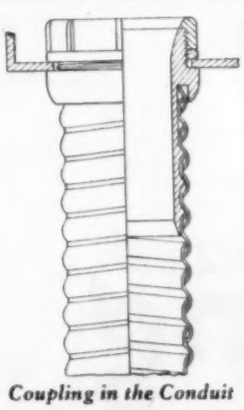

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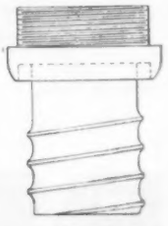

Coupling

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Hunter-Walker Company

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809-813 Public Nat'l Bank Bldg., HOUSTON, TEXAS

118w, fsg bailer 599 ft. Aylemore-Topley, Bulldog 1, 7-21-119, shipping in rig. Playter et al Aspen 1, 26-14n-118, shipping in rig. Brigman et al, 22-15-118, dr 1550 ft. Jno. B. Winston Colmo 1, 23-14-118, dr 400 ft. Park Oil Co. Christensen 1, 6-15-113, dr 150 ft. California Co., U. P. 1, 7-17-116w, dr 1539 ft. W. A. Myers et al, 1, 26-13n-119, bldg road.

MONTANA

BLAINE—Ohio Oil Co., Winngert 1, 3-34n-22e, undrr at 1060 ft. Arab Oil Co., Doble 1, se 3-34-22e, dr 1050 ft.

CASCADE—Winther et al, Rotherl, sw 11-22-1e, sd 1415 ft. U. S. Petroleum Co., 1, 13-21-3e, dr 350 ft.

CARBON—Ohio Oil Co., Northern Pacific 1, 11-7s-21e, lost tools at 4450 ft.

CHOTEAU—Williamston-Shelby, Flack 1, se 12-28-11e, abn 2505 ft. Geraldine O. & G. Co., 1, ne 1-21-11e, td 800 ft.

HILL—Jones Oil Co., Mangnell 2, ne 32-34-12, rig. McFarland et al, Boxelder 1, sw 15-30-13e, sd 1900 ft.

LIBERTY—Sunburst O. & R. Co., Bear's Den 1, nw nw 17-36-6e, rigging up. West. Nat. Gas Co., Pritchard 1, sw nw 3-37-2e, abn 2735 ft. Square Deal Pet., Johnson 1, se 1-32-7e, dr 2675 ft. Mid-Rocky Dev. Co., Federal Lands 1, 7-33-73, dr 1500 ft.

MADISON—New Day Oil Co., 1, ne 29-59-1e, dr 850 ft.

PONDERA—O'Haire-Aaberg, ne 24-27-1w, dr 700 ft. Peerless Oil Co., State 1, 16-27-3w, dr 1885 ft. Hiland Oil Co., Van Daele 1, ne 35-30-3w, dr 3632 ft. Cosmos Pet. Co., se 3-27-5w, rigged.

SWEETGRASS—Shoshone Consolidated, 1, 23-2n-15e, td 3650 ft.

TOOLE—B. & B. Oil Co., 1, nw 20-31-1e, sd 800 ft. Michener-Willick, 1, nw 18-24-1e, abn 1825 ft.

UTAH

BOX ELDER—Utah-Pennsylvanian Oil Co., 1, 3-10n-4w, dr 1250 ft. Leonora Raddata Oil Co., 14-9n-8w, dr 2135 ft.

DUCHESNE—Utah Southern, Pleasant Valley 1, 29-4-1, bldg rig.

GRAND—Utah Southern, Salt Valley 1, 13-23-21, sd 375 ft; Shafer 1, 36-26-20, dr 1993 ft. Navajo Petroleum, 2-20-21, repairing rig, td 1825 ft. Intermountain Venture Co., 1, sw 27-21s-19, run 8¼-in, td 1600 ft. Big Six Oil Co. and Utah Oil Refining Co., Randall 1, 10-22-19, dr 1500 ft. Brendell Sons, Crescent Eagle 2, 9-22-19, sd 100 ft. Perfection Oil & Gas Co., 3, 30-20s-22e, spd and dr ahead. Western Stated Development Co., 1, 27-21s-19e, dr 1650 ft.

NAVAJO RESERVATION—Continental Oil Co., Boundary Butte 1, 31-43-21, sd 3680 ft.

SAN JUAN—Boulder Knoll O. & G. Co., 1, 17-34-25, resum at 2640 ft to undrr 6¼-in.

UTAH—Diamond Oil Co., 3, ne 28-8s-4e, dr 1550 ft.

UINTAH—Maude Ellen Oil Co., 1, 28-3-21, to resume at 1080 ft. Utah Oil Refining, 4, 22-5s-22e, dr 850 ft. Western Venture Corp., Krumvieda 1, 6-5s-21e, td 1034 ft.

WAYNE—Phillips Pet. Co., ne 16-27-15, dr 3150 ft.

MILLARD—Beaver Valley Oil Co., 1, ne 20-25s-9w, dr 3350 ft.

TEXAS GULF COAST

Completions

JACKSON COUNTY—
Wright Bros., Drushell 6, Edna.... ¶35 ....

LIBERTY COUNTY—
Humble, Sterling 2, Moss Bluff.... * 2008

WALLER COUNTY—
J. R. Young, Fee 2, 10 mi s Hempstead ..... * 1500

AUSTIN COUNTY—Humble's Urban 2, Raccoon Bend, drk; Grawunder B-1, Raccoon Bend, drk; Kearns 1, Raccoon Bend, dr 500 ft. L. H. Weadock's Ward 1, H. & T. C. sur, 181, sd 2260 ft. Gulf's Jackson 1, San Felipe, dr 800 ft.

BRAZORIA COUNTY—Roxana's Poole A-2, Allen Dome, dr 5100 ft sand and shale; Allen 5, Allen Dome, dr 375 ft shade; Reese 3, Allen Dome, lcn. D. J. Harrison's Perry 1, Stratton Ridge, dr 3025 ft shale. Moody Corp.'s Jamison 1, Angleton, dr 3850 ft lime. Rucks et al's Muldoon 3, n Mt. Letheridge, sd 990 ft.

CHAMBERS COUNTY—Pure's Old River 1,

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Aerial Mosaic Maps

Lost Lake, dr 4672 ft gbo and shale; Lost Lake 1, Lost Lake, sdtrk 2100 ft; Lost River 2, Lost Lake dome, ru; Trinity River 1, Lost Lake dome, drk; Lost River Lake 1, Lost Lake, drk; Cut-Off Bayou 1, Lost Lake, drk. R. L. Bartlett's Fisher 1, Barbers Hill, standing 2160 ft.

COLORADO COUNTY—Rich Oil Corp.'s Wallace 1, 1½ mi n Alleyton, sd 1375 ft. United States O. & G. Co.'s Swank 1, 6 mi s Rock Island, dr 3800 ft shale.

FORT BEND COUNTY—Sun's E. C. Farmer 4, Boling, drk; J. R. Farmer 8, Boling, lcn. Gulf's Trone 9, Long Point, dr 2465 ft; Wolf 11, Long Point, dr 600 ft; Moore 17, Moore's field, dr 2250 ft; E. C. Farmer 2, Boling, drk. Scott & Peek's Armstrong 1, Boling, set surface cas. Humble's Dew 1, Sugarland, drk; Camp 1, Sugarland, set screen at 3260 ft to test sandy shale showing oil; Sugarland Industries 3, Sugarland, preparing to test oil sand at 3576 ft; Deathridge 1, Sugarland, dr 4091 ft shale. J. H. Diehl's Armstrong 1, 2 mi e Boling, sd 500 ft. The Texas Co.'s Bushnell 1, Boling, dr 3490 ft gbo and lime.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, sd 2675 ft.

HARDIN COUNTY—Chappel Hill Oil Co.'s Hale 1, 5 mi nw Sour Lake, sd 1819 ft. Guedry Drlg. Co.'s Guedry 1, 3 mi s Batson, drk. The Texas Co.'s Cruse 1, Batson.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, ru. J. A. Hautier's Crouse 1, Greens Bayou, sd 2900 ft. Hunt et al's Lobit 1, 4 mi n Goose Creek, dr 2145 ft shale. Humble's Warren 4, Hockley, cored hard sand at 4330 ft; Minnetex 1, Mykawa, dr 2467 ft gbo and lime; Simms-Smith 74, Goose Creek, ru. Cedar Bayou Oil Co.'s Johnson 1, 8 mi n Goose Creek, dr 3025 ft gbo. S. & M. Oil Co.'s Cook 1, 2 mi ne Crosby, dr 4350 ft gbo. J. E. Shine et al's Kitsman 1, 2 mi n Cypress, cored at 2007 ft. Brains et al's Lentze 1, 4 mi s Tom Ball, sd 1120 ft.

JACKSON COUNTY—The Texas Co.'s Moore 1, Edna, dr 2100 ft shale. Wright Bros.' Drushell 8, Edna, ru; Classen 2, Edna, dr 1615 ft gbo.

JEFFERSON COUNTY—Deep Test Oil Co.'s McFaddin 1, 4 mi ne Spindle Top, td 2175 ft, washing to bottom. So. Spindle Top O. & Dev. Co.'s Young 1, 1 mi w Nederland, sd 3425 ft. A. M. Deems' Mashman 2, 1 mi s Voth, lcn. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk.

LIBERTY COUNTY — Barlow et al's Minchcliff 1, 2½ mi ne Cleveland, sd 2215 ft. Kouri et al's Campbell 1, 6 mi s Cleveland, dr 875 ft gbo. Big Dome Interests' Finley 2, 3 mi nw Hardin, drk; Finley 1, 3 mi nw Hardin, dr 3620 ft water sand. The Texas Co.'s Davis 1, Davis Hill, moving in material. Humble's Sterling 2, Moss Bluff, junked and abn at 2008 ft; Sterling 3, Moss Bluff, lcn 100 ft e of No. 2; Welder 8, S. Dayton, deepening from 3709 ft. Sun's Kyle 1, Moss Bluff, dr 3000 ft shale.

MATAGORDA COUNTY—Matagorda County Dev. Co.'s Hawkins 1, Bay City, sd 1985 ft. Rycade's Hudson-Humble 3, Markham, dr 895 ft. Dr. P. S. Griffith's Culver 1, e Citrus Grove, dr 2650 ft gbo; Baer 1, 1½ mi n Gulf Hill, dr 1760 ft gbo.

WALLER COUNTY—J. R. Young's Fee 2, 10 mi s Hempstead, abn 1500 ft.

WASHINGTON COUNTY—Sun Oil Co.'s Crote 1, Brenham district, blowing dry gas from 980 ft.

SOUTH LOUISIANA

CAMERON PARISH—		
Calcasieu Oil Co., Watkins 9, wo, Kelso Bayou	1600	4075
IBERIA PARISH—		
Gulf, State Z-5, Loreauville	*	1400
ST. MARTIN PARISH—		
Rycade Oil Corp., Bayou Boullion 3	*	3150
Yount-Lee Oil Co., Louisiana Pet. Co. 2, Anse la Butte	*	4750
Ohio Oil Co., Burke 2, Hager dome	*	1125

ACADIA PARISH—E. F. Simms' Clement 1, Jennings, drld plug, well blew out, washing down, td 3865 ft; Clement 2, Jennings, ru; Grace-Von Schoeler 1, Jennings, drk.

ASCENSION PARISH—Gulf's United Lands Co. 9, Sorrento, dr 2400 ft. Triumph Oil

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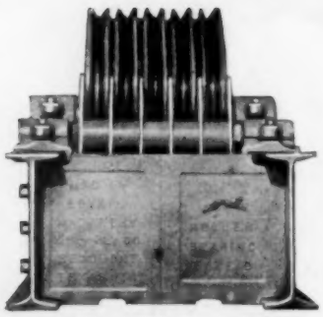

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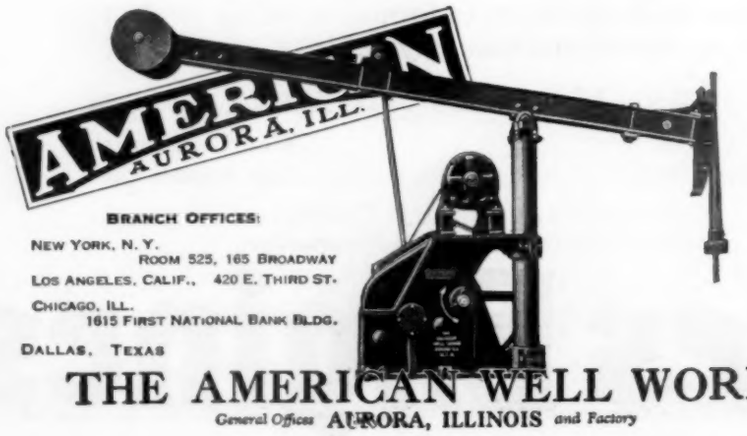

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Corp.'s Lacey et al 2, 1½ mi se Sorrento, lcn. Baton Rouge Pet. Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 729, Sulphur, drk; Fee 728, Sulphur, dr 6035 ft gbo; Fee 730, Sulphur, dr 5380 ft shale with gas show; Kelly 1, Sulphur, dr 5375 ft sand and shale; Fee, 731, Sulphur, dr 3200 ft sand rock; Fee 732, Sulphur, dr 2920 ft gbo; Fee 733, Sulphur, set surface cas; Fee 734, Sulphur, drk. Lehay et al's Jones 2, sd 1915 ft.

CAMERON PARISH—Pure Oil Co.'s Yount Lee 2, Sweet Lake, waiting on orders; Yount Lee 3, Sweet Lake, cleaning junk out of hole, td 6243 ft; Yount-Lee 6, Sweet Lake, dr 4255 ft sand and boulders. La. Land & Explo. Co.'s Calcasieu Lake B-3, lcn; Calcasieu Lake A-2, Calcasieu Lake, dr 2370 ft salt. C. O. Noble's Ellender 2, Hackberry, dr 4315 ft gbo. Cameron Oil Co.'s Duhon 1, Hackberry, dr 2600 ft gbo. Calsacieu Oil Co., Magnolia Pet. Co., and Union Sulphur Co.'s Watkins 9, Kelso Bayou, completed for 1600 bbls oil at 4075 ft; Doiron 3, Kelso Bayou, will probably deepen; Doiron 4, Kelso Bayou, set surface cas; Valery 3, Kelso Bayou, ru. Yount-Lee Oil Co.'s State Land 15, Kelso Bayou, lcn; State Land 17, Kelso Bayou, spudded; State Land 18, Kelso Bayou, ru. Roxana's Watkins 3, Black Bayou dome, dr 320 ft gbo; Watkins 4, Black Bayou dome, dr 415 ft gbo.

IBERIA PARISH—La. Land & Explo. Co.'s Avery Island 2, dr 2875 ft shale; Vermilion Bay A-3, blr; drk foundation; Bernard 1, New Iberia, sdtrk 2100 ft. Gulf's State Z-5, Loreauville, abn at 1400 ft; State Z-6, Loreauville, lcn; Kling 2, Eagle Point, drk.

IBERVILLE PARISH—Roxana's Wilbert 2, White Castle, preparing to set cas at 4040 ft to test sandy shale showing oil and gas. Standard of La.'s Wilbert 1, White Castle, dr 1340 ft gbo; Schwing 1, White Castle, drk.

LA FOURCHE PARISH—Gulf's Stark et al 5, Thibodaux, sd 1130 ft; Stark 6, Thibodaux, dr 300 ft.

PLAQUEMINE PARISH—Gusher Bill O. & G. Co.'s Park Plantation 1, sd 2670 ft.

ST. LANDRY PARISH—A. E. Borsum et al's Brown 1, sd 700 ft.

ST. MARTIN PARISH—Rycade's Bayou Boullion 3, abn in salt at 3150 ft; Atchafalaya Fee 3, Bayou Boullion, spudded; State 2, Bayou Boullion dome, will test sand showing oil at 3035 ft; Martin 1, Bayou Boullion dome, stuck drill pipe at 4885 ft. Yount-Lee Oil Co.'s Louisiana Pet. Co. 2, Anse la Butte, abn in salt at 4750 ft. Bowie O. & G. Co.'s Begnaud 4, Anse la Butte, trying to clean out, td 3920 ft. A. G. Broussard's Bergeron 2, Anse la Butte, sd 1300 ft. Ohio Oil Co.'s Martin et al 3, Hager dome, spudded; Burke 2, Hager dome, abn at 1125 ft.

WEST BATON ROUGE PARISH—Grosse Tete O. & G. Co.'s Wilbert 1, dr 1890 ft.

WEST FELICIANA PARISH—Foster & Robertson's Raccourci 1, ru.

NORTH LOUISIANA

BOSSIER Parish—
Bruten et al's Allbriton & Douglas 1, 1-22-14 . . . . . ¶ 2874

CADDO PARISH—
Tubbs et al's Hines 1, 16-14-16. . . . ¶ 2930

DE SOTO PARISH—
La. Public Utilities Co.'s Clanton 1, 14-12-12 . . . . . ¶ 1055

MOREHOUSE PARISH—
Texas Co.'s Huff 1, 36-23-7 . . . . . ¶ 3347
Gulf Ref. Co.'s Chess Wymond 1-A, 7-18-16 . . . . . ¶ 3445

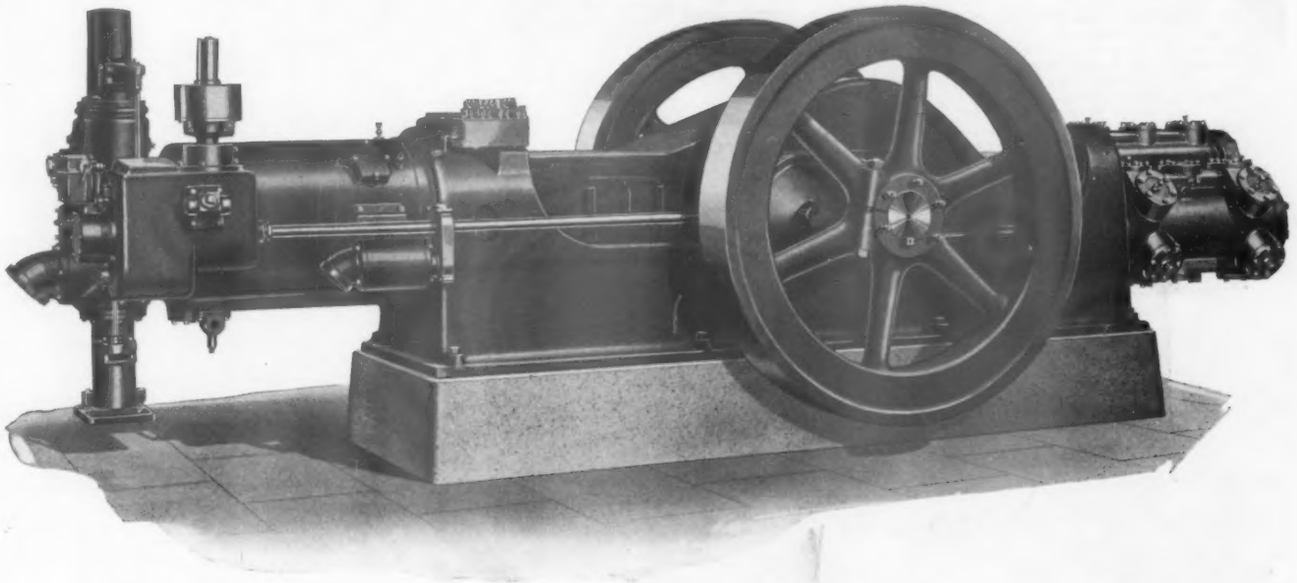
SABINE PARISH—
R. L. Gay's Mansfield Hardwood Lbr. Co. 1, 15-17-14 . . . . . ¶ 3611
Z. Zwolle O. & G. Co.'s Bowman Hicks 7, 14-7-14w . . . . . ¶ 4008

UNION PARISH—
Carter & Wingfield's Security Trust 1, 6-23-1e . . . . . ¶ 2365

BIENVILLE PARISH—Baca Drilling Co.'s State 1, 16-16-10, temp abn 2561 ft. S. P. Borden Trustee's L. & A. 2, 1-15-8, sd 1982 ft.

BOSSIER PARISH—Ark. Nat. Gas Corp.'s Van Hoose B-4, 36 16-12, coring 2400 ft. Ark. Nat. Gas Corp.'s Wilkerson 1, 5-22-11, temp. abn 3068 ft. Bruten et al's Allbritton & Douglas 1, 12- -14, dry and abn 2874 ft. Doern et al's Bolinger 1, 9-22-11, sd 4317 ft. William Gross et al's Stewart 1, 15-18-12, milling collapsed 3000 ft, td 3077 ft. C. W. Jones' Meyer 1, 31-16-11, milling collapsed 2575 ft. Palmer

New Pattin Super-Power Now Fitted With Timken Bearings



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It is a four cycle, single acting, center crank type, fully enclosed, with two fly wheels and has the following features—

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The main feature of our new engine is an Auxiliary Exhaust Port Sleeve Valve, (Patented applied for). It eliminates valve trouble. As practically all fire is taken out of cylinder through the center of this sleeve valve, and does not come in contact with the finished surface of the main valves, the greatest wear is eliminated. After exhaust takes place, this valve closes, and prevents loss of incoming charge or fouling by exhaust gases. No fire goes through the main valves.

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Each cylinder is independent of the other. The pistons or valves can be removed without changing a single pipe connection or affecting the alignment in any way.

This 100 H.P. Direct Driven Compressor is self contained—one foundation, and has no outboard bearing or supports of any kind to get out of line and cause trouble.

It has high speed governor, gear driven, enclosed renewable phosphor Bronze Main Bearings, with wedge adjustment, completely enclosed combination splash and force feed lubrication, and automatic air starter.

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It is destined to be the sensation of 1928—write today for literature on this Super Power Unit.

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2—Elimination of lubrication of any kind for the valve itself.
3—Silent operation at the highest piston speeds.
4—Valves never require regrinding.
5—Elimination of troublesome springs.
6—Simplification of air end, owing to the absence of all complicated valve operating mechanism.

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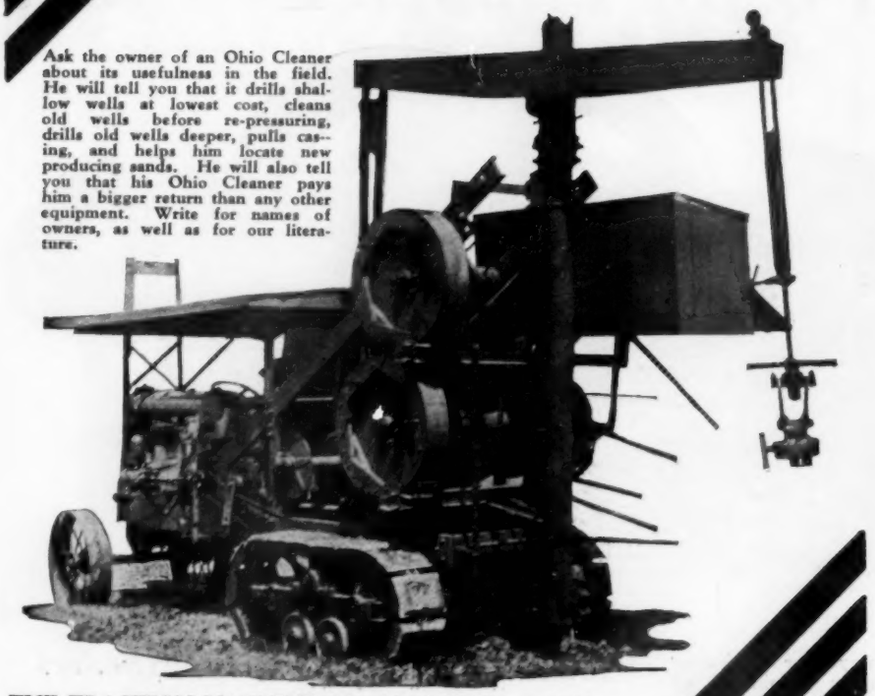

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CADDO PARISH—Haynes Bros.' La. Livestock 3, 8-19-16, tested show gas and oil 2313-18 ft, waiting orders. Tubbs et al's Hines 1, 16-14-16, dry abn 2930 ft. Warren & Carruthers' Berry 1, 26-15-15, sd 1500 ft. Gulf Ref. Co.'s Attaway 1, 1-15-18, coring 2972 ft.

CATAHOULA PARISH—Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft. Texas Co.'s Tensas Delta Land Co. B-1, 4-10-6e, dr 938 ft.

CLAIBORNE PARISH — Dixie Oil Co.'s Gilbert 1, 22-21-5w, dk. C. F. Lue's Taylor 1, 29-22-6, dk.

DE SOTO PARISH—Benson O. & G. Co.'s Jackson 1, 3-10-13, rig up. La. Pub. Utilities Co.'s Clanton 1, 14-12-12, dry abn 1055 ft. Williams 1, 22-12-12, dr 450 ft. R. O. Roy's Fuller 1, 6-13-13, waiting orders 2827 ft. Ruesdale et al's Nabors 1, 6-12-11, sd 2430 ft. R. O. Roy's Whittaker 1, 4-13-13, arr to se 6-in casing 2775 ft. Warren & Carruthers' Ramsey 1, 33-13-16, lcn.

EAST CARROLL—Palmer Corp.'s Land Co. 1, 21-19-11e, dr 1868 ft. Hamley 1, 27-20-11e, temp. abn 2923 ft.

MADISON PARISH — Mid-American Pet. Co.'s Yerger 2, 51-16-14, sd 785 ft.

MOREHOUSE PARISH—Shaffer O. & R. Co.'s Louisville Cooperage 1, 11-22-8e, dr 2060 ft. Texas Co.'s Huff 1, 36-23-7, dry abn 3347 ft; Meyers 1, 15-22-7, dr cement 2939 ft. Woodley Pet. Co.'s Bonita Lbr. Co. 1, 3-22-9, dr 2050 ft. Gulf Ref. Co.'s Chess Wymond 1-A, 7-18-16, dry abn 3445 ft. United Carbon Co.'s Bastrop 1, 18-21-6, sd 3017 ft.

NATCHITOCHES PARISH — Robeline O. & G. Co.'s Cassaday 1, 7-8-9, sd 1250 ft.

OUACHITA PARISH — Phillips et al's School Fee 1, 16-16-4e, sd 1930 ft.

RED RIVER PARISH — Rock Pet. Co.'s Pierson 1, 12-14-11, dr 1145 ft.

RAPIDES PARISH — G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

RICHLAND PARISH — Ruston Drilling Co.'s Etheridge 1, 28-17-6e, lcn. Wilson et al's Buie 1, 17-15-7e, lcn.

SABINE PARISH—Doern et al's Pickering Lbr. Co. 1, 17-4-11, dr 3720 ft. R. L. Gay's Mansfield Hardwood Lbr. Co. 1, 15-7-14, salt water, abn 3611 ft. Plymouth Oil Co.'s Logan A-2, 23-10-13, dr lime 4480 ft. Texas Co.'s Hamline 1, 28-10-13, dr 3759 ft lime and shale. Zwolle O. & G. Co.'s Bowman-Hicks 7, 14-7-14, salt water, abn 4008 ft.

TENSAS PARISH—Enochs et al's Curry 1, 39-11-12, dr 2700 ft. W. L. Brock Tr.'s Curry 2, 39-11-12, rig up.

WEBSTER PARISH—Magnolia Pet. Co.'s Cook 1, 2-22-11, waiting standard rig, 900 ft oil in hole, td 2711 ft. W. P. Bond 1, 5-22-9, lcn. M. M. Branton 1, 5-22-9, lcn.

UNION PARISH — Carter & Wingfield's Clark 1-A, 7-23-1e, dr 50 ft; Hudson 2, 7-23-1e, sd 2190 ft; Security Trust 1, 6-23-1e, dry abn 2365 ft; Security Trust 2, 7-23-1e, drk pattern. Jones & Mullins' McLeod 1, 13-19-1e, rig up. R. W. Rhodes' Upshaw 1, 14-23-2w, dk.

EAST TEXAS

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, fsh 3086 ft.

CASS COUNTY—Davis & Pigg's E. Lambert 1, Lambert sur, rig up.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1300 ft.

RED RIVER COUNTY—D. M. Buffington's Jess Hoosier 1, Hughart sur, sd 1000 ft. Bert Longheim's Atkinson 1, Lonson-Moore sur, sd 1220 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd 1330 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, rig up. Gulf Ref. Co.'s Pickering 1, Harvey sur, bailing 1621 ft.

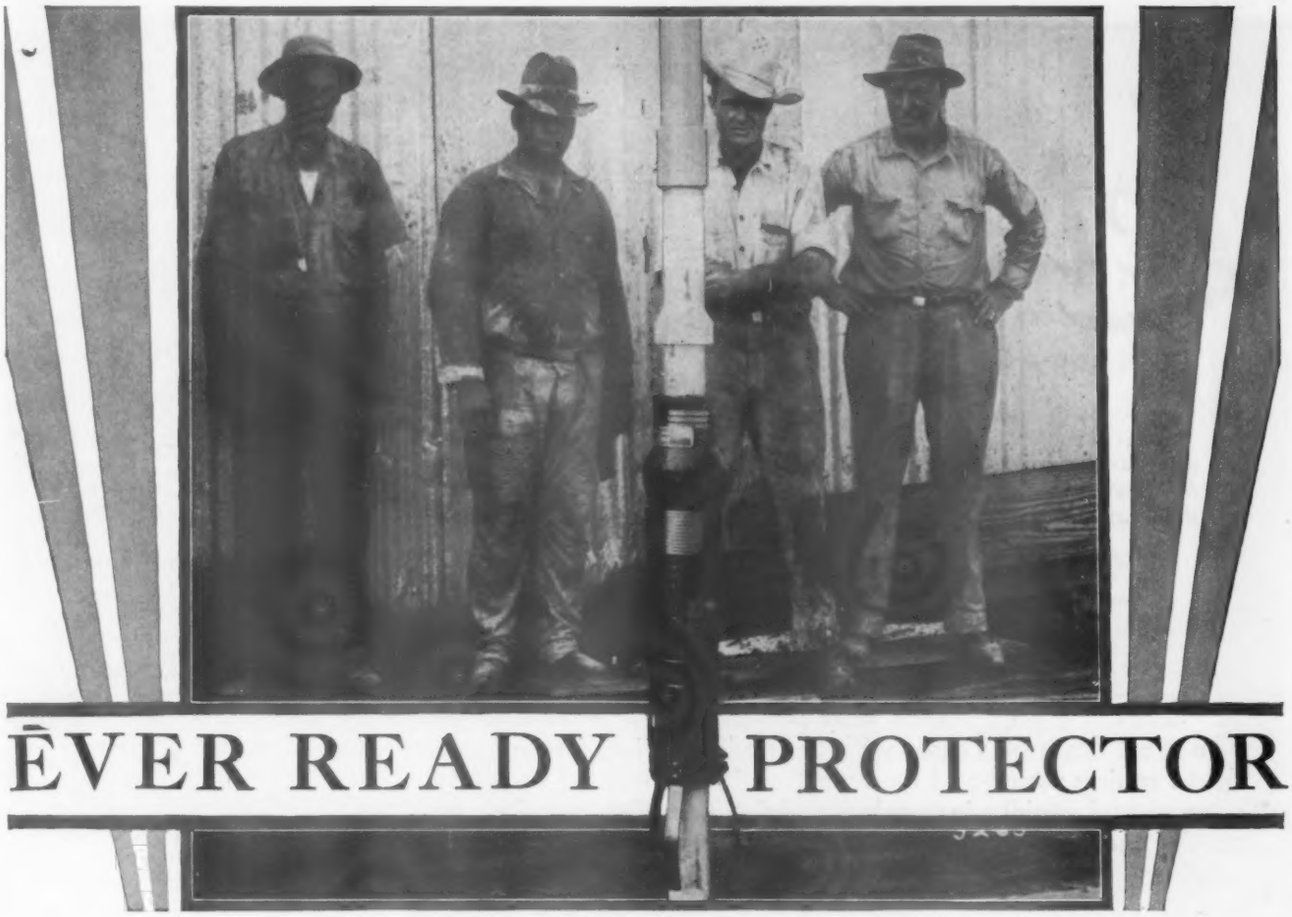
UPSHUR COUNTY—F. S. Fryland's Newsom 1, Butler sur, dr 1650 ft.

ARKANSAS

ASHLEY COUNTY — Atlantic Oil Prod. Co.'s Moffatt 1, 28-16-8, dr 1350 ft. C. E. Harris et al's Holmes 1, dr 151 ft.

BRADLEY COUNTY — Ohio Oil Co.'s Southern Lbr. Co. 1, 15-16-10, dr 3287 ft. Hurley et al's Southern Lbr. Co. 1, 26-15-10, sd 21 ft.

CLARK COUNTY — McKenzie Oil Co.'s



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Eakins 1, 9-11-19, sd 1700 ft. William Henry, Trustee's Clark 1, 34-9-21, sd 1385 ft.

CALHOUN COUNTY—Phillips Pet. Co.'s Ark. Land & Timber 1, 29-16-12, dk pattern. Amerada Pet. Co.'s Matlock 1, 10-12-13, dk.

CHICOT COUNTY—Texas Co.'s Hammond 1, 23-17-2, dr 2971 ft. W. S. Smith's Meyer 1, 14-19-2, sd 850 ft. J. C. Marcum's De Yembert 1, 5-19-4, sd 1292 ft. Joe Crawford's Cashione 1, 14-19-2, sd 1550 ft. Texas Co.'s Gay 1, tested 1500 ft sw thru ds 2899 ft, dr 2924 ft. S. D. Hunter's Sawyer 1, 19-18-2, rig up.

COLUMBIA COUNTY—G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd waiting orders 2847 ft.

CLEVELAND COUNTY — Ark. Nat. Gas Corp.'s T. J. Pate 1, 4-9-11, dr 1802 ft.

DALLAS COUNTY — Robt. H. Dedman's Hillman 1, 20-10-13, sd 1145 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, sd 3462 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3-19w, temp. abn 2800 ft.

JOHNSON COUNTY — Ark. Nat. Gas Corp.'s Bynum 1, 13-10-24, dr 2340 ft. O. L. Hulson 1, 14-10-24, dr 1235 ft. Kerwin 1, 16-10-24, dr 2850 ft. Houston 1, 14-10-24, reaming 255 ft.

LINCOLN COUNTY—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, sd 2126 ft.

LOGAN COUNTY—Ark. Nat. Gas Corp.'s W. H. Parks 1, dr 2375 ft.

OUACHITA COUNTY—Timberlake et al's Carnes 1, 27-13-17, sd 2539 ft.

UNION COUNTY—Clark, Trustee's Dumas 1, 8-17-16, dr 3406 ft. McDonald Bros.' Mayfield 1, 29-19-15, dr 230 ft. R. J. McMurry's Hale 1, 23-19-15, dr 3285 ft. Rice et al's Heinman & Meyers A-1, 23-18-16, sd 1180 ft. Stark et al's Powell 1, 35-18-16, dk. Imperial O. & G. Co.'s Goodwin 1, 26-17-16, arr mill out of casing 2100 ft, td 3387 ft. E. M. Jones et al's Stegall B-2, 10-18-14, deepened to 2264 ft, has 13 ft sand, 100 ft oil, 25 ft salt water in hole awaiting orders. Grimes Bros.' Hill 2, 7-18-14, rig up. Tate & Morefield's W. W. Smith 1, 6-17-13, sd 1420 ft. H. L. Hunt Dykes 1, tested salt water through ds 3199-3293 ft, coring 3206 ft.

NORTHERN CALIFORNIA

KERN COUNTY

BAKERSFIELD—Pacific Eastern Prod. Co.'s KCL 3, 6-30-28, co td 4444 ft; KCL 4, dr hard sand 3668 ft; Hughes 1, 5-30-28, dr shale 3131 ft.

BUTTONWILLOW—Milham Explo. Co.'s Paige 1, 6-28-23, sdtr liner 2740 ft. Doheny-Stone Drilling Corp.'s 1, 7-29-24, sd 4280 ft.

COMANCHE POINT—W. W. Stabler's Tejon 1, 23-32-29, running new dr pipe, td 2860 ft.

DELANO—Jasmine Oil Co.'s 1, 33-25-27, dr gray sand 3128 ft. S. A. Delzel's 1, 4-26-27, fsh for dr pipe 2350 ft.

EDISON—General Pet. Corp.'s Kerwin 1, 5-30-29, plugged to 3945 ft, co; Kerwin 5, 32-29-29, dr shale and sand 3475 ft. Midway Northern Oil Co.'s Brown 1, 29-29-30, dr hard sand 3676 ft.

FAMOSA—Famosa Oil Co.'s Mattie 1, 34-27-26, dr shale 4213 ft.

GOULD HILLS—Cymric Oil Co.'s Porter 3, 36-28-20, dr shale 1650 ft. Ozena Oil Co.'s 1, 27-29-21, pumping water and oil, td 2930 ft.

SAN EMIDIO—Standard Oil Co.'s KCL 6, 35-11-22, dr 150 ft.

SHAFTER—Max McVey's 1, 8-28-25, sd 2550 ft.

SEMITROPIC—Richfield's 1, 21-26-22, fsh for dr pipe, 3600 ft.

WASCO—Main Oil Co.'s 2, 28-27-24, sd 5270 ft.

VENTURA COUNTY

BARDSDALE — Triple A Investment Co.'s Elkins 1, sanded up on prod test, td 2952 ft, made premature flow before test.

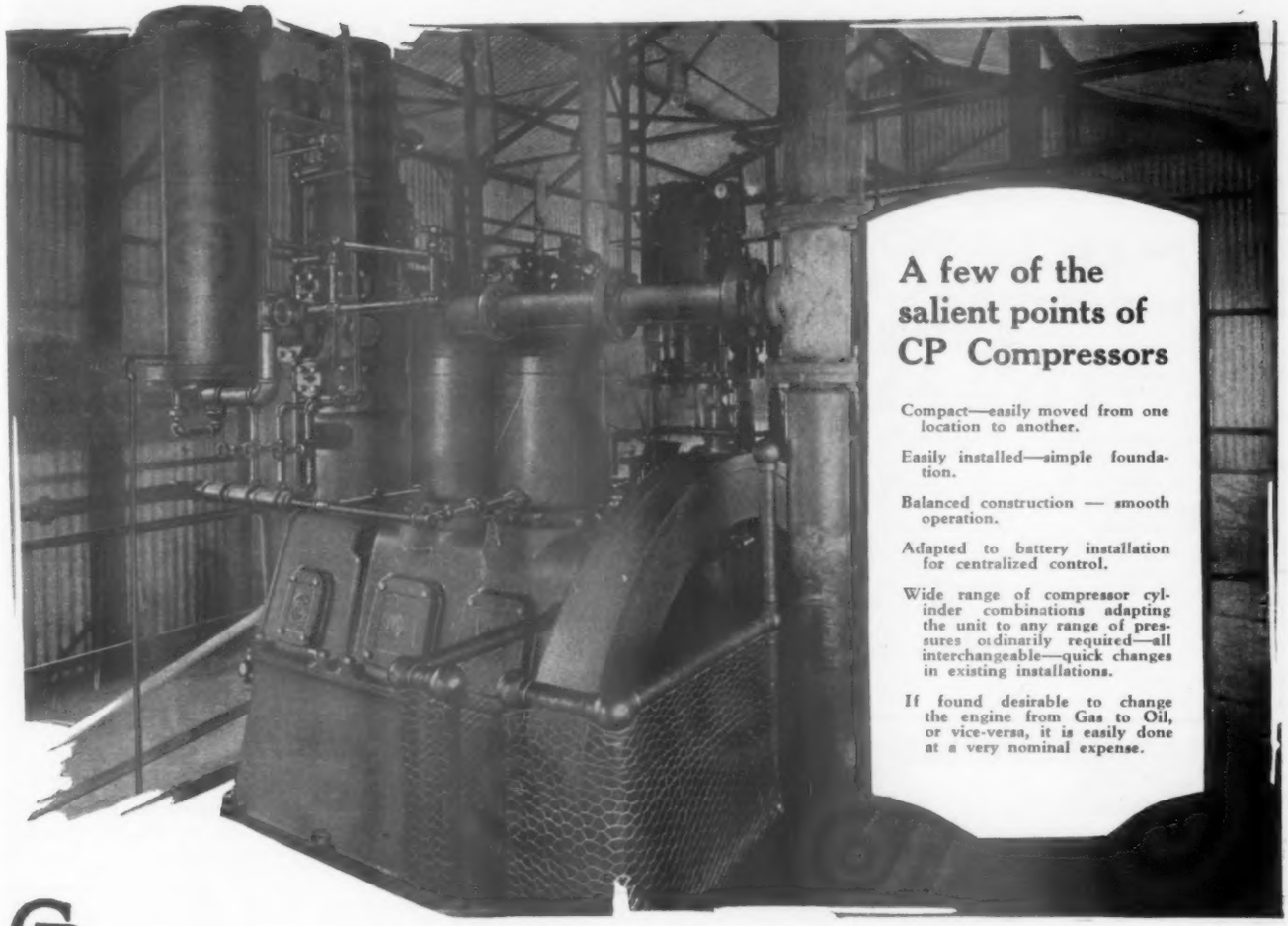
CAMARILLO—American Oil Co.'s 1, 33-2-20, dr basalt 533 ft.

FILLMORE—Sesps Oil Co.'s Smith 2, sd 4000 ft. Sterling Oil Co.'s E-1, replacing rig, td 3985 ft.

OJAI—Continental Oil Co.'s Fox 1-M, 21-4-22, cmt 8¼-in cas 2250 ft; Thompson 1, 22-4-22, 12½-in cas cmt 1770 ft, td 1777 ft. Geis and Bradford's 2, cmt 8¼-in cas 2200 ft.

OXNARD—Shell's Grub 1, 22-2-22, reaming 4550 ft; Deidrick 1, 33-2-22, sr 1800 ft.

PIRU—Petroleum Securities' Diablo 1, 26 s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RINCON—Scott Pet. Co.'s 1, 35-4-25, sd 5115 ft.

SANTA PAULA—W. W. Bryant's Anlauf 3, rigging rotary. San Pedro-Pt. Fermin Synd.'s Kellerman 1, 13-4-21, sr 680 ft.

SATICOY—Standard's Citrus 5, 11-2-22, rigging up.

SIMI—Emma F. Exline's Seaton 1, 32-5-21, 8⅝-in cas cmt 2070 ft. Pirate Oil Co.'s 1, 33-3-21, new lcn. Shell's Berylwood 1, 32-3-20, pumping water, td 7208 ft.

SOUTH MOUNTAIN—Ring Pet. Co.'s Converse 1, dr oil sand 4525 ft.

VENTURA—Star Pet. Co.'s Canet 1-A, dr hard sand 6791 ft.

MISCELLANEOUS

ALAMEDA COUNTY—Calhome Oil Co.'s Livermore 1, 9-3-3, testing 6¼-in cas 1335 ft, td 1351 ft.

COLOUSA COUNTY—E. & G. Oil Co.'s 1, 19-15-14, deepening from 1150 ft.

FRESNO COUNTY — Fresno-Madera Oil Co.'s 1, 18-12-21, sd 4151 ft.

HUMBOLDT COUNTY — Humboldt Oil Co.'s 2, 6-2-1, dr 2766 ft.

KINGS COUNTY—Milham Explo. Co.'s Elliott 1, 2-22-17, redr 6950 ft.

MADERA COUNTY—Los Angeles-Madera Synd.'s 2, 21-10-17, will deepen from 2635 ft.

MONTEREY COUNTY—Marland Oil Co.'s Naciemento 1, 32-24-11, rebuilding rig, td 4865 ft.

SAN LUIS OBISPO COUNTY—North Star Oil Co.'s 1, 5-32-13, abn 3250 ft, will make new lcn. Panorama Oil Co.'s 1, 7-31-21, dr brown shale 2963 ft. San Luis Synd.'s 1, 31-31-13, dr shale 724 ft. Union's Russ 1, 34-32-15, sr 3075 ft; Chandler 1, 12-32-15, dr shale and sand 1000 ft.

SAN MATEO COUNTY—Shell's Butts 1, 21-6-5, running dr pipe, td 3090 ft; Cowell 2, 8-6-5, coring 3425 ft.

TULARE COUNTY—Ducor Drilling Co.'s 1, 29-23-27, co 4308 ft. Kings-Tulare Synd.'s 1, 19-21-23, gas showing 5455 ft.

KANSAS

BARBER COUNTY—Barber Oil Co.'s Blunk 1, c ne nw, 20-34-12w, 6-in at 4185 ft.

BARTON COUNTY—Everett & Wiley's Ward 1, nwc sw, sc. 12, sd 2948 ft. McJilton et al's Evanston 1, sec nw, 34-17-11w, rig.

BUTLER COUNTY—LaRobb et al's Bronsenger 1, nec sw, 24-27-3, rig.

CHASE COUNTY—Griener & Fowler's Carson 1, nec ne, 9-21-7, sd 3000 ft.

COWLEY COUNTY—Jones & Hall's Shapland 1, nec nw se, 20-30-6, set 8-in csg 2368 ft.

DICKINSON COUNTY—Empire G. & F. Co.'s Duffy 1, nec sw se, 3-12-3, dr 2804 ft. Watchorn O. & G. Co.'s Mowrer 1, nwc se, 33-16-4, abn 2630 ft.

ELLIS COUNTY—Derby Oil Co.'s Weigel 1, c nw, 26-12-17w, sd 4068 ft. Rush Oil Co.'s Gatewood 1, nwc nw, 4-15-20w, dr 615 ft. Transcontinental Oil Co.'s Boetcher 1, nwc se sw, 21-13-19w, dr 1950 ft.

GEARY COUNTY—Pioneer Oil Co.'s Chase 1, sec se, 10-12-7, dr 3164 ft.

GREENWOOD COUNTY—P. H. Ballew's Bright 1, nec sw, 22-27-12, sd 1210 ft. O. W. Culp et al's Hoover 1, nec se, 15-27-13, abn 1483 ft.

HARPER COUNTY—Amerada Pet. Corp.'s Mendiville 1, c se se, 24-34-6w, dr 5290 ft. Sam Jarvis' Warneke 1, sec sw, 4-34-3w, set 6-in csg 4252 ft.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nwc sw sw, 19-10-17, r. v. & sd.

LANE COUNTY—Robinson et al's Dickerson 1, swc nw se, 11-18-27w, set 8-in csg 2625 ft.

MARION COUNTY—Youker et al's Fronta 1, swc nw ne, 21-18-4, dr 1950 ft. Courtney B. Davis' Rampel 1, sec ne se, 7-19-3, dr 1880 ft.

MEADE COUNTY—Blackwell O. & G. Co.'s Beyer 1, sec nw se, 9-33-28w, dr 4356 ft.

MITCHELL COUNTY—Ben Gurley et al's Crombil 1, c ne ne, 32-9-7w, u.r. 6-in csg 2880 ft.

MORRIS COUNTY—Hugh Faulder's Wendt 1, swc se se, 18-15-5e, rig. Skelton et al's Iles 1, nwc nw, 25-16-5, rig.

McPHERSON COUNTY—Derby Oil Co.'s Bugham 1, c sw sw, 21-18-2w, dr 3400 ft. Galt-Brown's Blaine 1, c ne, 18-17-1w, dr 2903 ft.

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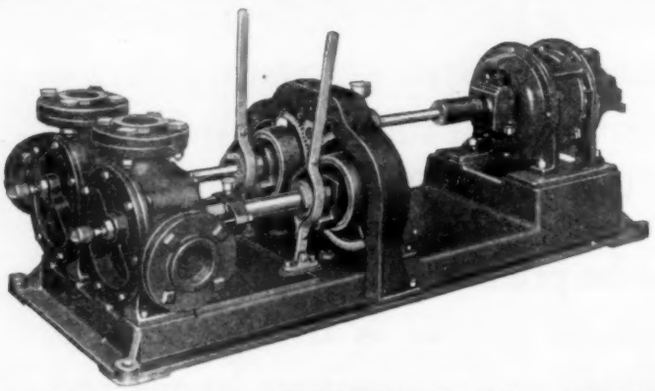

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John Heron's Vosshell 1, nec ne, 9-21-3w, spd & sd.

OTTAWA COUNTY—Anderson et al's Bank, nec nw, 28-10-2w, sd 2380 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne, 31-21-16w, sd 1560 ft.

RENO COUNTY—Empire & Marland's Williams 1, sec ne, 5-26-4w, sd 3870 ft.

RICE COUNTY—Allison & Fitzwilliams' Poland 1, nec sw ne, 36-19-8w, cellar.

ROOKS COUNTY—Phillips Pet. Co.'s Overholtzer 1, c se, 30-9-16w, 2470 ft. G. & F. Co.'s Doodrill 1, nec se nw, 15-8-18w, fshg. 2320 ft. Krueger et al's Poore 1, nec ne, 14-8-16w, sd 2420 ft.

RUSH COUNTY—Valerious & Cheney's Sheverman 1, nwc se nw, 27-17-17w, sd 3030 ft.

RUSSELL COUNTY—Hartman & Skaer's Taylor 1, c sw, 35-13-12w, sd 3300 ft. Midwest Exploration Co.'s Austin 1, nec ne, 36-12-16w, fshg 3045 ft.

SALINE COUNTY—M. Esty et al's Peterson 1, c ne, 6-16-5w, spd & sd.

SEDGEWICK COUNTY—Allison & Fitzwilliams' Doane 1, ne nw ne, 24-26-1w, dr 450 ft.

SEWARD COUNTY—T. B. Slick's Pyle 1, nec ne, 14-33-33w, dr 4680 ft.

SHERMAN COUNTY—A. L. Henson et al's Murry 1, nec se nw, 22-7-40w, sd 3035 ft.

STEVENS COUNTY—W. Sidwell et al's Kelly 1, swc ne, 16-34-38w, dr 731 ft.

SUMNER COUNTY—Geo. Dickey's Knox 1, swc ne, 3-35-1w, dr 2380 ft. Otstot et al's Volker 1, nwc ne, 9-35-1, rig. Davidson et al's Strickland 1, swc se, 12-35-1w, rig. Rolland et al's Pickens 1, nec nw ne, 27-30-14w, u.r. 6-in 3820 ft.

TREGO COUNTY—Central Commercial Oil Co.'s Ellis 1, nec sw ne, 20-13-21w, dr 1360 ft.

SOUTHERN CALIFORNIA

BELLEFLOWER—World Pet. Corp.'s Blythe 1, sd 2915 ft.

CALABASAS—Easton and Smith's Morrison 1, dr hard sand 2951 ft.

COSTA MESA—Mesa Pet. Corp.'s B. & G. 1, 11-in cas re-cmt 2500 ft, td 3240 ft.

DAVIDSON CITY—Calif. Well Drilling Co.'s Del Amo 1, cas pressure 900 pounds, shut in.

DOMINGUEZ—Dominguez Extension Oil Co.'s R. & B. 1, removing equipment, may abn.

DOWNEY—Associated's Taylor 1, fsh cmt, sdtr 1890 ft, td 2000 ft.

FULLERTON—Shell's Stern 1, dr hard sand 5984 ft.

INGLEWOOD—Ring Pet. Corp.'s Simons 1, sd 4350 ft.

LYNWOOD—Security Pet. Corp.'s 1, sd 5335 ft.

MANHATTAN BEACH — Ellis Mallery's Redondo 1, Redondo Villa Tract, new lcn.

MONTEREY PARK—Monterey Park Pet. Co.'s Browning 1, sd 4530 ft.

POMONA—Pomona Oil Ass'n.'s Community 1, dr sand 350 ft.

PUENTE—Richfield's Puente 1, 9-2-11, new lcn.

RIVERA—Empire Drilling Co.'s Purman 1, oil showings 3870 ft, td 4125 ft.

SAN FERNANDO—Shell's Mission 2, 8⅝-in cas cmt 3860 ft, bailing, td 3940 ft.

WATSON — White-Behr Consolidated Oil Co.'s Watson 1, jarring liner, td 5300 ft.

MISCELLANEOUS

RIVERSIDE COUNTY—Hall Pet. Co.'s Watt 1, 23-7-3, dr shale 860 ft. Spindletop Oil Syn.'s Salton 1, sd 3460 ft.

SAN BERNARDINO COUNTY — Western Pacific Oil Co.'s 3, co 3074 ft.

SAN DIEGO COUNTY—Davenport O. & G. Co.'s 1, dr gray sand 713 ft. Torrey Pines Oil Co.'s Macgregor 1, reaming shale 1920 ft. S. S. Turner's Baler 1, dr sand 1437 ft. C. R. Schuster's Ganymede 1, sd 3610 ft, d: pipe in hole.

OKLAHOMA

WOODS COUNTY—T 28n, R 18w, Sec. 11, George Vincent et al's Freedom 1, c sw; ponds.

HARPER COUNTY—T 27n, R 21w, sec. 24, A. F. Kpisch Oil Co.'s Selman 1, ne c se, spudded & sd.

WOODS COUNTY—T 27n, R 15w, Sec. 20, Sooner State Oil Co. & E. R. Black's Marcum 1, csw; spudded & sd.

GRANT COUNTY—T 27n, R 5w, Sec. 18, J. W. Bailey et al's Custard 1, c se, sand 4878-96 ft, small show oil, fsh job 4989 ft, drlg

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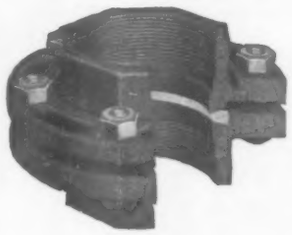

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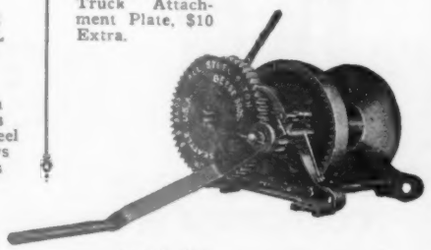

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5008 ft. T 26n, R 4w, Sec. 34, Sooner State Oil Co.'s Royce 1, swc nw, sd 550 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent et al's McNeal 1, nwc ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co., Cooper 1, nwc se, sd 4182 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22—Cowden, Volner 2, nec se ne sw, lost tools 5640 ft, sd.

KAY COUNTY—T 25n, R 1w, Sec. 15, Tonkawa Dev. Co.,'s McDaniels 1, sec, hfw 4956 ft, dry and abandoned.

NOBLE COUNTY—T 24n, R 3e, Sec. 11, George Miller et al's Howe 1, ur 8-inch casing 2782 ft. T 20n, R 1w, Sec. 32, Marland Oil Co. et al's Kidd 1, Wilcox 5283-5290 ft, now show, pb to 1824 to 1826 ft.

TEXAS COUNTY—T 1n, R 18 ecm, Sec. 11, Three Way Oil Co.'s Price 1, sec nw, sd 3490 ft.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Copenhaver 1, nwc, spudded and sd.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, sd 4755 ft.

WOODWARD COUNTY — T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, c se, sd 500 ft. T 21n, R 19w, Sec. 15, Burgoyne Gros.' 1, swc se ne, sd 1485 ft. T 21n, R 21w, Sec. 25, Sharon's Elmire 1, swc, rig blown down, td 3025 ft.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland Oil Co.'s Looman 1, nec se, sd 5735 ft, casing parted. T 20n, R 4w, Sec. 12, Marland Oil Co.'s Miller 1, swc, sd 4586 ft.

DEWEY COUNTY—T 18n, R 15w, Sec. 9, Huckelby & McCoy's Perfect 1, nec, dr 4395 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co.'s Quier 1, sec sw, fsh bailer 3945 ft. T 18n, R 2w, Sec. 21, Tibbets & Bond et al's Donahue 1, sw nw se, dr 3215 ft.

KINGFISHER COUNTY—T 16n, R 7w, Sec. 6, Gault Brown Oil Co.'s Campbell 1, c nw se, sd 4516 ft. T 16n, R 6w, Sec. 27, Crawford & McKenna's Stugeon 1, nec sw, sd 4509 ft.

BLAINE COUNTY—T 15n, R 12w, Sec. 26, W. J. Donley's Dickens 1, sec ne, dr 2995 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears Piatt 1, swc ne, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 18, Slick & Bailey's Lufkin 1, c ne se, sd 4510 ft. T 12n, R 3w, Sec. 15, Cromwell et al's Thompson 1, sw ne ne, top Wilcox 6940 ft, dr 6978 ft. T 11n, R 3w, Sec. 24, I. T. I. O. Co.'s Park 1, c se se, est 25M gas 3996-4013 ft, est 40M gas 4793-4825 ft, cemt. 8-inch 4787 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. M. V. Bailey's Robinson 1, c ne nw, spudded and sd.

OSAGE COUNTY—T 25n, R 6e, Sec. 25, Amerada Pet. Corp.'s 1, nec sw, td 1570 ft, skidding rig 40 ft west.

PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Washoma Oil & Gas Co.'s Buffalo 1, sec nw, fsh 2245 ft.

LINCOLN COUNTY—T 15n, R 6e, Sec. 23, Shaffer O. & R. Co.,'s Pinkston 1, nec sw, dr 923 ft. T 13n, R 4e, Sec. 16, Bu Vi Bar's School Land 1, c ne se, 5-inch at 4851 ft, sand 5310-30 ft, hfw, plugging.

OKFUSKEE COUNTY—T 13n, R 10e, Sec. 8, Dixie Oil Co.'s Drew 1, nec sw, spudding. T 11n, R 9e, Sec. 16, Houston Oil Co.'s Knight 1, sw nw se, dr 1900 ft.

MUSKOGEE COUNTY—T 13n, R 17e, Sec. 34, Elk Drilling Co.'s McKee 1, csl se se se, 160 ft td, abn. T 13n, R 18e, Sec. 33, L. T. Haynie's Linder 1, c se, sd 2290 ft.

McINTOSH COUNTY—T 12n, R 18e, Sec. 15, A. B. Wolfe et al's Beck 1, nwc se, spudded and sd.

PITTSBURGH COUNTY — T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, sw nw se, 3M gas at 1325-1390 ft, 2M gas 1890-95 ft, 3M gas at 4472-4525 ft, 3 M gas 4613-4635 ft, Wilcox 5343-5424 ft, dr 5439 ft.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Sanders 1, nw ne sw, 2480 ft, sd.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone Oil & Gas Co.'s Murray 1, swc, dr 1890 ft.

SEMINOLE COUNTY—T 11n, R 6e, Sec.

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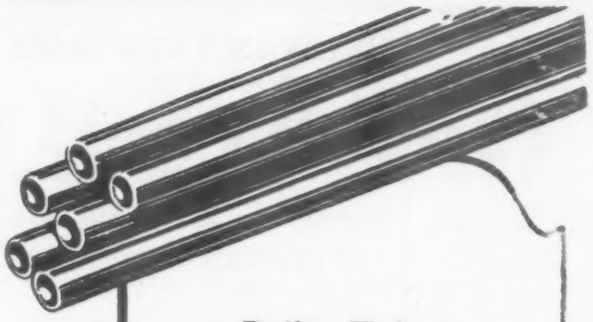

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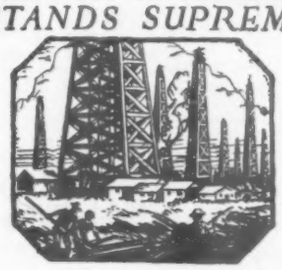

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27, Furhman Pet. Co.'s Fay 1, se nw sw, dr 3523 ft.

POTTAWATOMIE COUNTY — T 10n, R 3e, Sec. 12, Sikes, Kilgore & Shaffer's Ives 1, c se se, hfw 5615-5617 ft, dry and abn.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 3, Superior's Davis 1, swc se, 4388 ft hfw, ts 4593 ft td, hfw, dry and abn. T 10n, R 7e, Sec. 18, Shaffer O. & R. Co.'s Jones 1, swc ne, td 4710 ft, hfw, pb to Cromwell sand 3715 ft, sd.

POTTAWATOMIE COUNTY—T 9n, R 4e, Sec. 13, Atlantic & Gypsy's Deleware 1, se ne ne, dr 1275 ft. T 9n, R 5e, Sec. 30, Magnolia's Germany 1, sec nw, dr 2800 ft.

POTTAWATOMIE COUNTY—T 8n, R 2e, Sec. 24, Superior's Jones 1, sw nw ne, fsh 4660 ft. T 8n, R 4e, Sec. 15, Phillips Pet.'s Sparkman 1, sec sw, dr 2653 ft.

SEMINOLE COUNTY—T 8n, R 8e, Sec. 4, McCullouch's McGilbray 1, swc ne, rig.

HUGHES COUNTY—T 8n, R 9e, Sec. 18, Pure Oil Co.'s Fixico 1, nec sw, dr 2600 ft. T 8n, R 10e, Sec. 1, Bauer et al's Penn 1, nw sw ne, 10-inch collapsed 2350 ft, sd.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner Oil Co.'s Vandeveer 1, ne nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T7n, R 2e, Sec. 17, T. B. Slick's Spangler 1, nw se nw, nw, sd 5020 ft. T 7n, R 5e, Sec. 14, Champlin O. & R. Co.'s Harber 1, sw ne sw, surface pipe 45 ft.

SEMINOLE COUNTY—T 7n, R 6e, Sec. 7, Simon & Beam's Palmer 1, ne nw ne, rig.

POTTAWATOMIE COUNTY—T 6n, R 5e, Sec. 16, T. B. Slick's School Land 1, sec, Wilcox 4708-4745 ft, hfw, plugging back. Sec. 20, Roxana Pet. Corp.'s Deister 1, nw se ne, dr 4236 ft, hfw.

SEMINOLE COUNTY—T 6n, R 7e, Sec. 4, Shaffer's Caroline 1, sec sw ne, dr 4168 ft.

HUGHES COUNTY—T 6n, R 8e, Sec. 32, T. B. Slick's Epperly 1, nw ne nw, cemt 8-in 3969 ft.

SEMINOLE COUNTY—T 5n, R 6e, Sec. 11, T. B. Slick's Harjo 1, nwc ne, dr 3080 ft.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, dr 1602 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, Garland Oil Co.'s Strickland 1, sw nw sw, fsh 5-inch csg 2927 ft.

PONTOTOC COUNTY—T 3n, R 8e, Sec. 10, Douglas' Johnson 1, c nw nw, dr 2700 ft.

COAL COUNTY — T 2n, R 8e, Sec. 5, Wichtex Oil Co.'s Folsom 1, c nw nw, lcn.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc, ur 12-inch csg 1070 ft.

COAL COUNTY—T 1n, R 8e, Sec. 35, W. E. McGraw Oil Co.'s Patten 1, sw se ne, dr 4320 ft. T 1n, R 9e, Sec. 24, Galbreath et al's Jones 1, swc se, spudded and sd.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se, spudded and sd.

CADDO COUNTY—T 12n, R 11w, Sec. 15, Abernathy & Ashton's 1, c nw, salt water 4320-30 ft, ur 6-inch.

ROGER MILLS COUNTY—T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne, dr 700 ft.

CADDO COUNTY—T 10n, R 12w, Sec. 28, Magnolia's Shelby 1, swc, ur 6-inch 4265 ft.

BECKHAM COUNTY—T 9n, R 22w, Sec. 17, Producers Exp. Co.'s Terdel 1, ne nw nw, rep. rig, 2120 ft. Sec. 32, C. & H. Pet. Co.'s Barnes 1, nw c ne, owdd, td 3514 ft, pb to 3070 ft. T 8n, R 25w, Sec. 1, E. L. Martin's 1, nwc se, lcn. T 8n, R 21w, Sec. 33, Day Oil Co.'s Ault 1, nwc, sd 60 ft.

KIOWA COUNTY—T 7n, R 15w, Sec. 35, David Malernee's Van Kirklan 1, nwc, sd 858 ft. T 6n, R 16w, Sec. 18, Clarence Walker's Foster 1, nwc ne, sd 500 ft. T 6n, R 15w, Sec. 6, Johnson-McDowell's 1, c sw ne, sd 1750 ft.

CADDO COUNTY—T 6n, R 12w, Sec. 29, W. J. Hartley's Gilbreath 1, sec nw se, owdd, sd 3394 ft.

GRADY COUNTY—T 5n, R 6w, Sec. 21, Wirt Franklin Pet. Corp.'s Long 1, swc ne, lcn.

STEPHENS COUNTY—T 2n, R 5w, Sec. 20, Martin & Smythe's Vestal 1, c ne se, sand 2023-31 ft, bailing small show of oil.

COMANCHE COUNTY—T 1n, R 12w, Sec. 14, P. Hrbacek & A. E. Korthaus' Wilson 1, c ne sw, owdd, sd 3780 ft.

STEPHENS COUNTY—T 1n, R 7w, Sec. 2, Stahl & Burris' Jefferson 1, se ne nw, ru and sd.

JACKSON COUNTY—T 1s, R 20w, Sec. 33, Stanley McGregor's 1, swc nw sw, sd 1800 ft.

STEPHENS COUNTY—T 1s, R 7w, Sec. 12, Ilsing, Russell & Nance's Houston 1, nec sw sw, fsh 532 ft.

KIOWA COUNTY—T 2s, R 16w, Sec. 6, Landfair's 1, sec sw se, sd 2495 ft.

COTTON COUNTY—T 4s, R 12w, Sec. 16, Guiler & Pyson's Thomas 1, sec sw, dr 310 ft.

JEFFERSON COUNTY—T 5s, R 8w, Sec. 28, Amerada's Emerson 1, nwc se sw, 3722 ft, run 5-inch csg.

JOHNSON COUNTY—T 1s, R 7e, Sec. 29, Smitty-Kinsley's Lane 1, sec nw, dr 785 ft.

MARSHALL COUNTY—T 5s, R 4e, Sec. 11, Bilbo's Chapman 1, ne nw ne, 380 ft, dry and abn.

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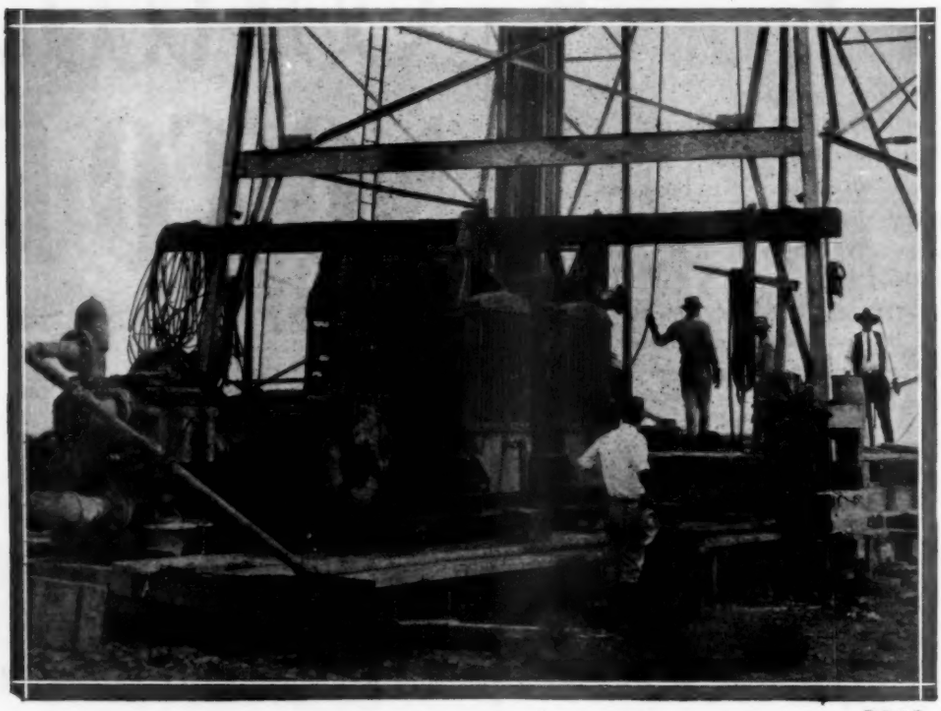

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Doubling Up

Two 125 H.P. Waukesha "Ricardo Head" Heavy-Duty Oil Field Power Units make an ideal combination for rotary rigs—one on the mud pump, the other on the rotary or both on the draw works. In this manner they are widely used along the Gulf Coast and in West Texas. Using little water and running on easily portable fuel—gasoline or "waste" gas—they are particularly adapted to both "wild cat" drilling or producing fields where water is scarce and fuel dear.

Waukesha Oil Field Power Units are built in sizes from 40 to 125 H. P. For stationary work where a complete weather-proofed unit is not required Oil Field Stationary Units with unusually large radiators are available in sizes from 70 to 125 H.P. Waukesha power is used for drilling with either rotary or cable tools; for pumping water, oil and mud and for driving "Gas Lift" compressors. If you are interested in the "Gas Lift" write for Bulletin 616 which gives the entire theory and practice of this kind of pumping.

P-810-L

OIL INDUSTRY EQUIPMENT DIVISION

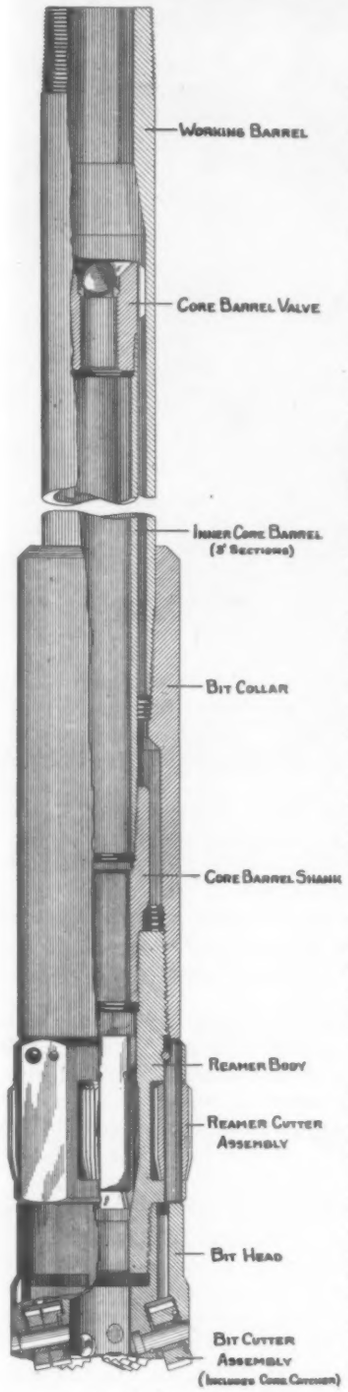
WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

New York	Tulsa	Houston	San Francisco
8 W. 40th St.	C. F. Camp Co.	Portable Rig Co.	C. A. Watts

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



Reed Core Bit.

New Reed Core Bit

REED ROLLER BIT CO

Reed Roller Bit Company, Houston, Texas, announces a new Reed rock core bit, Model 29 "C."

The new bit follows to some degree the same general construction as the well known Reed rock bit; it consists of a short core head in which cutters are placed, and a reamer body which also carries cutters placed directly above the bit cutters.

The reamer, which has four-point contact near the bottom of the hole, is said to provide a positive steadiness of the bit in the hole while in action.

Cutters in the bit head are so placed as to protect the head itself against wear. Each cutter is provided with slush holes directly above with a fine jet action for cleaning.

The valve at the top of the inner core barrel is the ball and seat type and permits of washing the inner barrel clean before coring operation is begun.

Any length barrel can be provided with the bit; the ordinary size is a 12-foot working barrel with the same length inner barrel made up in three-foot sections.

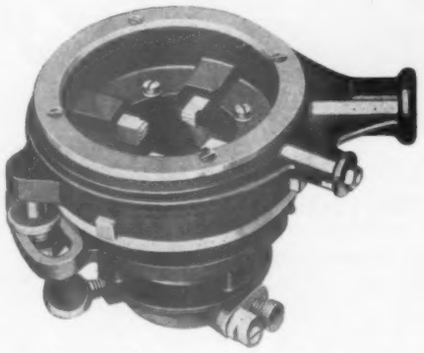
The bit is furnished with any connection desired by the customer. The core bit head and reamer are both furnished with ample tong space for making up and breaking out. The inner core barrel is made up with flush joint connections, the upper section of which is furnished with the core barrel valve.

The core catcher seats low in the bit in a tapered seat.

Recommendations for operation of the barrel state that the ball in the valve should be left out until the barrel has been lowered near the bottom of the hole and washed thoroughly and clean, at which time the same may then be dropped through the drill pipe to its natural seat and coring operation begun.

It is also stated that in running this core barrel it will be found that best results are secured by carrying a maximum of not more than 5000 pounds on the largest size bit in the hardest formation. It is said that in a hard formation the core bit will penetrate at approximately twice the speed of a rock bit. For this reason it is suggested that a weight indicator be installed on the rig while coring operations are going on.

Further details regarding the new bit can be secured by writing the Reed Roller Bit Company, Houston.



Beaver No. 11A Ratchet Stock.

Beaver Die Stocks

THE BORDEN COMPANY

The Borden Company, Warren, Ohio, has recently put on the market two new self-contained and adjustable one to two-inch die stocks. These are No. 11 Beaver plain tool and No. 11A Beaver ratchet.

In these new stocks one set of dies is quickly set to thread to one, one and one-fourth, one and one-half or two-inch without changing dies. The dies are made of alloy steel specially treated with respect to hardening and tempering.

The die head and threaded barrel are two separate parts.

The work holder is of new design: two knurled screws are set and hold firmly to pipe size, leaving only the thumb screw to be tightened after the die stock is placed on the pipe. The device will grip any size coupling for threading short nipples.

Parts of the new stocks are interchangeable.

Further information may be had from the company, by request.

Reverse Clutches

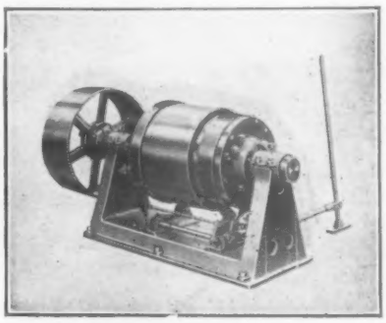
FRANKLIN VALVELESS ENGINE COMPANY

The Franklin Valveless Engine Company, Franklin, Pennsylvania, is offering a new line of reverse clutches for use in the oil fields.

The clutches are built in three types known as the 2SD, SD and BG.

Type 2SD is intended for either cable tool or rotary drilling. A feature of this clutch is that it has two speeds in either the forward or reverse motion. The change from either speed to the other is quickly made when the clutch is idle or running at any speed, by moving a lever backward or forward. The clutch is of the twin disc type, with discs of steel lined with friction lining.

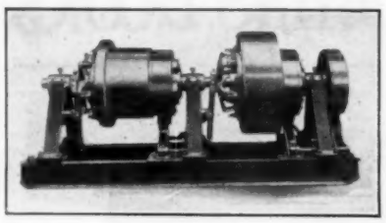
The pulley or sprocket wheel is mounted on Timken roller bearings. Gears in the reverse mechanism are cut from steel forgings. In reversing, the shaft and not the pulley, is reversed.



Type BG Clutch.

A neutral brake, conrolled by the same lever that is used to throw in the clutch or reverse, lessens the danger of the machinery being started when the clutch is in neutral. The clutch, or reverse, is always thrown out before the neutral brake is applied.

Type SD clutch is



Type 2SD Clutch.

the same in construction as type 2SD, except that a belt pulley or sprocket wheel is substituted for the two-speed arrangement used in the 2SD.

The BG clutch is intended for cable drilling or pumping. It is belt driven and is of much the same construction as the SD, except that it is lighter and is mounted on a cast iron base. It is fitted with twin steel discs, a neutral brake and cut steel gears in the reversing mechanism.

More details can be had from the company, by request.

Cleveland, Ohio—The Charles T. Topping Machinery Company announces the removal of its offices from the U. B. Building, Dayton, Ohio, to 4403 St. Clair Avenue, Cleveland.

The company manufactures excavating machinery, among which is the Topping Pony-Ditcher, a traction driven trench excavating machine, suitable for oil and gas pipe line construction.

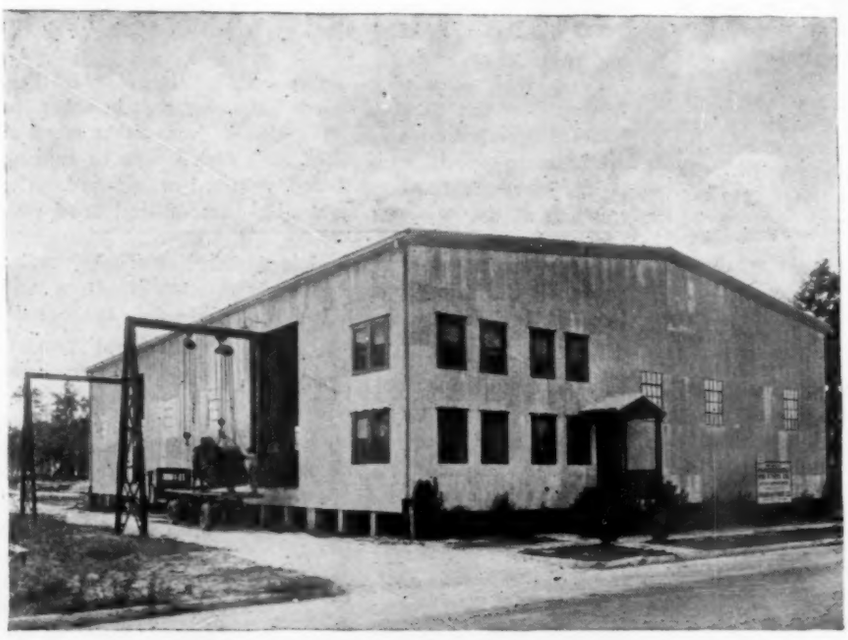
Expansion, which will include other lines of equipment and additional plant facilities, is planned for the near future.

Parkersburg, W. Va.—The Spence Machine Company of this city has been taken over by new interests and will be known henceforth as the Spence Machine & Supply Company. The new company is composed of D. G. Williamson, J. A. Williamson, W. T. Elliott, G. W. Sisk and C. E. Backus.

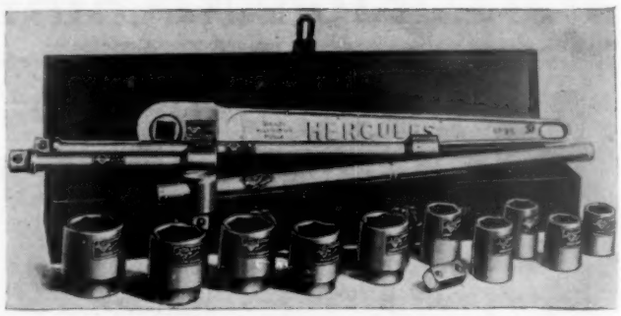
The new concern plans to continue the manufacture of the well known Spence powers, which include: a single eccentric combined gas engine and power capable of pumping from four to six 2000-foot wells; the Reliable, a power capable of handling four 1000-foot wells, and the Reliable Junior which, with counterbalence, will pump one 2400-foot well.

Other equipment, including steel tool boxes, steel derrick forges and steel slack tubs, is manufactured.

The company plans to add to its line a new power called the Backus, which will pump twenty 1000-foot wells, and a new steel weight box.



New warehouse of Parkersburg Rig & Reel Company at Houston.



Heavy duty socket wrenches.

Socket Wrench Set

BONNEY FORGE & TOOL WORKS

A new heavy duty set of Socket Wrenches, made of CV Chrome Vanadium steel, is announced by the Bonney Forge & Tool Works, Allentown, Pennsylvania.

The set is composed of 10 sockets, running in size from 15/16 to 1⅝-inch opening. It is specially designed for extremely hard service and as the name "Hercules" implies, is so proportioned that although light in weight it has a very heavy reserve strength factor. The set consists of 10 seckets, ratchet handle and a short and long extension sliding "T" handle.

Further information may be had from the company, by request.

Houston—The new warehouse of the Parkersburg Rig & Reel Company, at 6300 Navigation Boulevard, was formally opened September 14 with a buffet luncheon, which was attended by a large number of purchasing agents and members of the oil fraternity.

Speakers for the occasion included G. O. Dunmire of Shreveport, district manager of the Parkersburg Rig & Reel Company, Arkansas, Louisiana and Gulf Coast district; J. A. Lyne, manager of the Houston office of the Company, and H. D. Crawford of the home office at Parkersburg, West Virginia. P. L. Brooks, who serves the company at Fort Worth as district manager of the West Texas district, was also present for the opening.

The Houston headquarters of the Parkersburg company were formerly at 3610 McKinney Avenue. The new building, which houses the warehouse and offices, is in the newly opened Neils Esperson industrial district, where several other companies manufacturing or dealing in oil field supplies, have their headquarters.

The Parkersburg Rig & Reel Company is an old and well established manufacturer and distributor of oil country supplies. Incorporated in 1897 under the laws of West Virginia, the company has enjoyed a steady growth since its inception.

The Parkersburg Rig & Reel Company maintains its executive offices and main plant at Parkersburg, West Virginia, with sales offices and distributing warehouses in all active fields.

The executive officers of the company are: John H. Crawford, president; Davis B. Crawford, secretary and treasurer, and H. J. Lockhard, vice-president and general manager.

The sale of the property on which the new Houston warehause is located was handled by R. M. Montgomery of the Business Property Department of the Guardian Trust Company, Houston.

Tire Pop Valve.

New Tire Pop-Valve

TIRE POP VALVE CO.

The Tire Pop-Valve Company of Pontiac, Michigan, have introduced a new invention to make it simple and easy to get exactly the proper air pressure in tires while inflating them. They are designed to be sold in sets of four and screw onto the valve stems without disturbing the core-valve, and are left on the tire until the tires are worn out. When tire needs inflating the air hose is applied as usual, and when the designated pressure is reached in the tire, the Tire Pop-Valve "signals"—after which no more air can pass into the tire; thus making it easy to accurately inflate tires either in daylight or darkness and without a gauge.

Further information may be had from the company.

Chain Belt Building More Factory

Milwaukee, Wis.—The Chain Belt Company has started work on a new manufacturing building on a 59-acre tract at Thirty-ninth and Orchard Street. The new building will be the fourth unit of the company's plant here and is a part of a general expansion program.

The new building will be 104 x 150 feet, and is to be completed by September 15. It will be modern in every respect, with a saw-tooth roof, brick and concrete sidewalk construction and concrete flooring throughout. At present there are five buildings on this tract, the malleable iron foundry, concrete mixer assembly plant, general engineering building, where conveying systems and Rex traveling water screens are manufactured. There is also a cafeteria and a three-story brick building which houses the drafting room, pattern shop and core room.

The main office is still on the Sixteenth Street viaduct, where the company has the gray iron foundry and the chain assembly plant, machine shop and another assembly building. The company also has a plant in Cleveland which is devoted entirely to the manufacture of belt conveyors. Both the Milwaukee and Cleveland plants are operating at full capacity.

POINTERS on Steel Derricks

Fireproof—

Fire has always been a great hazard in the oil country. Millions of dollars worth of equipment has been destroyed by this great enemy of the driller. It would only seem logical therefore to use as much all-steel equipment as possible. O'Brien Steel Derricks are as fire-proof as any derrick can be. This one characteristic alone should be reason enough to use O'Brien Derricks. The O'Brien shown here stood unharmed after fire had destroyed everything else at this well.

Why Experiment? O'Brien Derricks will drill your wells and pull your casing.

O'BRIEN STEEL CONSTRUCTION COMPANY, INC.
Washington, Pennsylvania

Western Representatives: RIG EQUIPMENT COMPANY, 1524 South St. Louis St., Tulsa, Okla.

IN HOUSTON

Two hotels you will find to your liking—The Ben Milam and The Sam Houston.

Cool, light, airy, outside rooms — ceiling fans—ventilated doors, circulating ice water—Excellent service.

Conveniently located—cafe in connection—garage adjoining.

Every modern convenience to make your stay pleasant and comfortable.

RATES
$2.00 to $2.50

The SAM HOUSTON
200 Rooms 200 Baths

The BEN MILAM
250 Rooms 250 Baths

Operation
O'LEARY, MICKELSON & HALL

Is the Make of Casing You've Used in the Past Suitable to the Deep Drilling of Today?

PERHAPS the casing you have used in the past has given you excellent service. Perhaps lap welded casing answered your requirements well. But, with drilling going deeper and deeper seamless casing should be used because it is made to cope with the added and multiplied stresses and strains. For example,

ASTCO

Large Size Screw and Slip Joint Surface SEAMLESS Steel CASING

Its higher tensile strength, its freedom from collapse, its almost complete elimination of costly wall abrasion are too important to overlook. Higher quality and ASSURED SAFETY make the slightly higher first cost one quickly repaid. If you would know the benefits that ASTCO Casing can bring you in deep drilling, ask for complete details.

American Seamless Tube Corporation

1211 Neils Esperson Bldg., Houston, Texas
535 Fifth Ave. New York City
Petroleum Securities Bldg., Los Angeles, Calif.

(Trade Mark Registered)

SQUEAKS FROM THE BULL WHEEL

"I see by the paper that Babe Ruth walked twice today."

"Gosh, she should be more careful about whom she rides with."

Who writes the advertisements for your bank?

I don't know, but I'm sure it's not the same man who makes the loans.

Before I pronounce sentence, have you anything to say?

Yes, your honor, I'd like to shave the prosecuting attorney just once more.

Boss—You wear a very old fashioned coat in the office.

Clerk—Yes, it is old fashioned. I bought it when I had my last raise.

You'd never think this street used to be a cowpath, would you?

Oh, I don't know; look at all the calves on it.

"Lady," said Mike, "would you lend me a cake of soap?"

"Do you mean to tell me you want soap?"

"Yes'm. Me partner's got de hiccups an' I want to scare him."

Business Man—Why did you leave your last position?

Miss—There was no future in it.

Why?

The boss was already married.

Scene, dining room of lease broker's home.

Curtain rises with Mary, the lease-broker's wife seated at the table with John, the leasebroker.

John, excitedly, "Mary, this certainly has been a wonderful day. You know that option I had on those 14,000 lots? Well, I traded it this morning for an option on 30,000 acres over in Podunk County and this afternoon I traded that for an option on a whole county down south of San Antone—it's worth ten million dollars!"

Mary, siezing John's arm, "That's fine, John. Go easy on that butter, it's all we have!"

A perplexed porter was explaining an unprecedented situation to the Pullman conductor.

"But, captain, the stepladder's missing; who took it? And why? And how?"

"But, who would want to steal a Pullman ladder?" expostulated the conductor.

"I don't know, but she's gone," responded the porter.

At this juncture a passenger occupying an upper berth for the first time over heard the conversation, parted the curtain and remarked:

"Here, porter, you may use mine. I won't need it 'till morning."

Hardware Clerk—I'd like to borrow a yardstick.

Dry Goods Ditto—We've nothing but a foot rule. We sell dress goods now by the inch.

Boy, you is so thin you could close one eye and pass for a needle.

Don't talk, fella, you is so thin yo' ma could give you grapejuice and use you for a the'mometer.

Boy: " Please, sir, I've called to see if you can give me a job."

Small Store-owner: "But I do nearly all the work myself!"

"That suits me, sir!"

A paint manufacturer recently received the following letter:

"Gentlemen: Will you please send us some of your striped paint? We want just enough for one barber pole."

"Are you still engaged to that homely Smith girl?"

"No, I'm not!"

"Good for you, old man. You had my sympathy when you were. How did you get out of it?"

"Married her."

"What is the defendant's reputation for veracity?" asked the judge.

"Excellent, your honor," said the witness. "I've known him to admit that he had been fishing all day and hadn't got a single bite."

A doctor had been to see one of his patients, a widow:

"You are worried and slightly morbid, my dear lady," he said. "You should look about you and marry again."

"Oh, doctor," she answered coyly, "is this a proposal?"

"Allow me to remind you, madam," came the reply, "that a doctor prescribes medicine, but he doesn't take it."

When the amount of his bond was increased recently, an employe of a large industrial concern was given a paper to sign.

"Lots of reading on it," he observed, as he perused the text with great interest.

"Huh!" remarked the clerk with the paper. "I'll bet you didn't read your marriage license that carefully."

"Maybe not," was the reply, "but since I signed that, I'm reading everything."

Minister—Who giveth this woman?

Bride's Father—I do. And now, folks, I wish to remind you that today's program is coming to you through the courtesy of Walter Q. Blubblah, father of the lovely bride and president of the Blubblah Bushing & Winch Corporation, manufacturers of the "Little Wonder Winches," and "Milady Dainty Bushings," at all hardware shops of the better sort.—Life.

NATIONAL PULLING MACHINE "Type B"

CAPACITY

Mast when properly guyed will handle with safety 20,000 Pounds

This is equivalent to 3,000 feet of 2-in. Tubing filled with water and ⅝-in. Sucker Rods

or

2,000 feet of 2½-in. Tubing filled with water and ¾-in. Sucker Rods

THE NATIONAL SUPPLY COMPANIES

Say you saw it in The OIL WEEKLY

Gulf Refining Company

OKLAHOMA
TEXAS
LOUISIANA

Refiners of PETROLEUM

GASOLINE
REFINED OIL
NAPHTHA
GAS OILS
PARAFFINE WAX
PETROLEUM COKE
FUEL OIL
LUBRICATING OILS
CYLINDER
ENGINE
CORDAGE

Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

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Ocean Terminals:

Boston (Beverly), Mass.
Providence, R. I.
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Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

"Another Harrisburg Coupling"

"I never knew the real meaning of coupling dependability, coupling uniformity and coupling economy until I began buying my couplings from a company that operates its own open hearth furnaces, rolling mills and forge shops.

"Just try Harrisburg Forged Seamless Steel Couplings and see for yourself."

"Harrisburg is the real pioneer when it comes to forged seamless steel Couplings and I tell you—there's a big advanage in dealing with a firm that produces its own steel and controls every operation in the making of its finished products."

HARRISBURG PIPE & PIPE BENDING COMPANY

HARRISBURG, PA.

Fully Equipped with Our Own Open Hearth Furnaces, Rolling Mills and Forge Shops

Distributors:

HARRISBURG PIPE & PIPE BENDING CO. OF TEXAS, Inc.
Houston, Texas

HARRISBURG SUPPLY CO.
Tulsa, Okla.

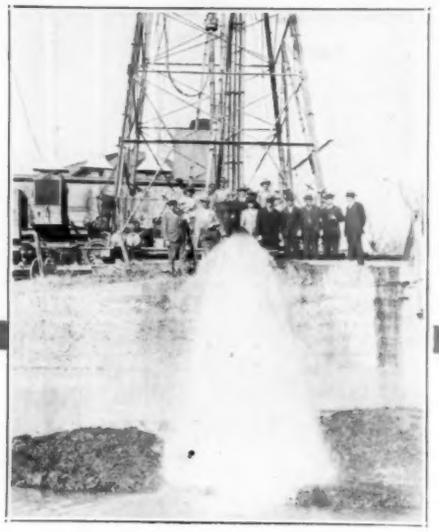
George J. Hausen, Inc., San Francisco, Los Angeles and Taft, Calif.

HARRISBURG

Forged Seamless Steel Couplings

No- it's not an oil well~ but HUGHES ROCK BITS AND CONES

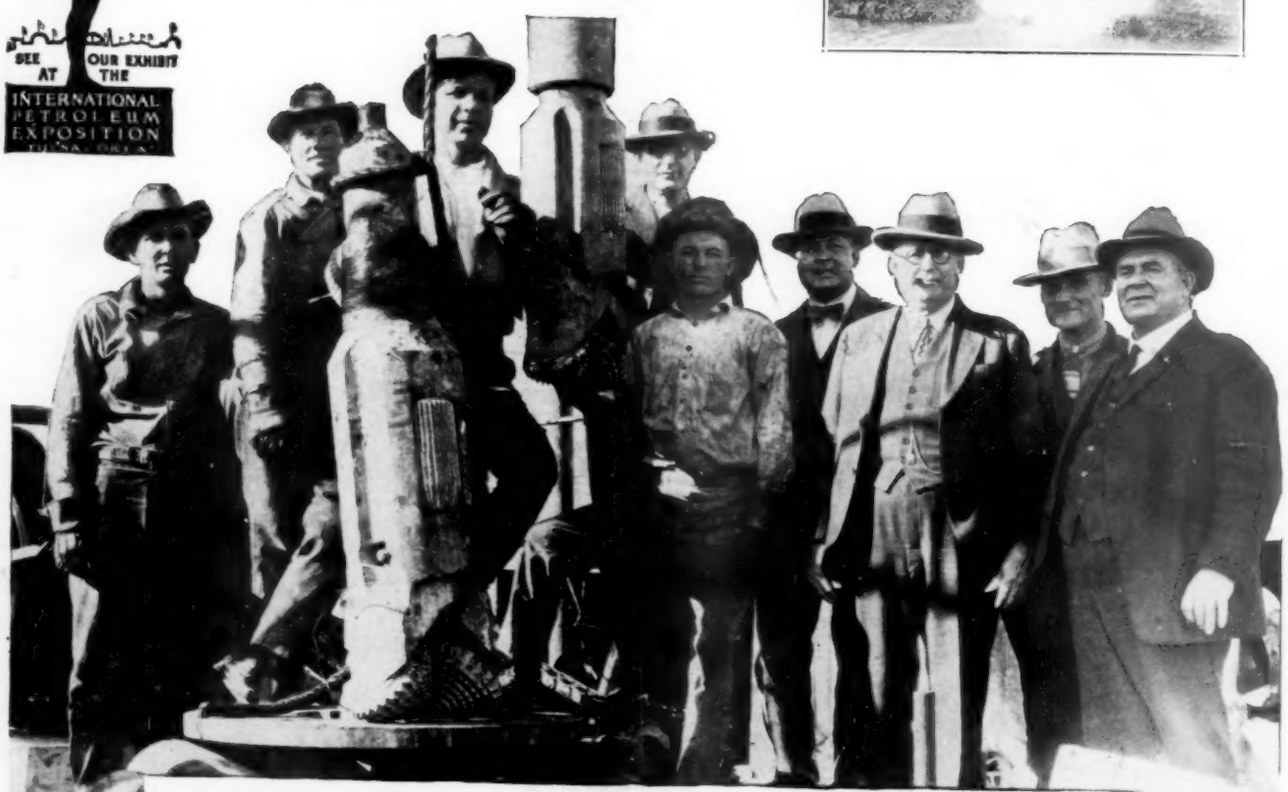
DID THE WORK SAFELY, ECONOMICALLY, AND SUCCESSFULLY



The two photographs shown here are of the last artesian well brought in for the city of San Antonio. The small picture is that of the well discharging into the San Antonio River.

Mr. J. A. Copeland, manager of the Oil Well Supply Department of the San Antonio Machine and Supply Company and Mr. Dingman, owner of the rig are in the large picture, as well as the two Hughes Rock Bits, equipped with Hughes Self-Cleaning Cones, used in the drilling of this well.

Sold by Supply Stores Everywhere



HUGHES TOOL COMPANY

Service Plants Los Angeles, Calif. Oklahoma City, Okla.

Main Office and Plant HOUSTON, TEXAS

Export Office Woolworth Bldg., New York City